

|             |             |            |             |             |            |      |
|-------------|-------------|------------|-------------|-------------|------------|------|
| ttcgaagttc  | ttcattcttt  | ctcacttttg | catcatgtgg  | cctctggaca  | ctgtggtcag | 1800 |
| tcatttgaaa  | attgacttta  | atttaaaaca | aaggcctgtg  | cctcccaccc  | aggaggtggg | 1860 |
| aggggtgaatt | ttatgtttta  | atgaagaagt | gaattatgga  | agaagagtat  | acgaccttcc | 1920 |
| cttccctttc  | aagcataagt  | ccaaatagac | tctcaggaat  | gaagatttgt  | gaagacatca | 1980 |
| gataggaatt  | ttgactcatt  | taaactttga | tgcttagtta  | tgttgctgga  | gaaaagatac | 2040 |
| ttatgttttg  | ctcatctaac  | ttcattgtac | ccagcgtcat  | tttgacatgt  | catttcctat | 2100 |
| ctcccatttg  | ccttcgggtcc | tcaatgcatg | tctttgagtg  | acttcttata  | tgaaattttg | 2160 |
| ctactggtat  | cctaggaaag  | cttttggttg | atactctcat  | tttaaacttc  | tcctctcccc | 2220 |
| agatacctcc  | tatatctcca  | tattgtgtgc | aaaggatggg  | caaaaaagaa  | agtgcctgaa | 2280 |
| agattttcaaa | ttttcagaaa  | gggaacaacg | aaggccctct  | cttccctctca | taccacgttt | 2340 |
| tgctcaagaa  | gctgggctgt  | aacaattcag | ggttttccct  | tgttttcctc  | tcattgcatg | 2400 |
| tttccctcca  | atattggttc  | attgtcatca | atcatggttt  | ttgaagatag  | ctagttttat | 2460 |
| ccatctccag  | caaagaatca  | tcaatagttt | atattgcttt  | acctgtgctg  | gcttccagag | 2520 |
| atggaaacaa  | acccaggtgt  | ctctcaacaa | gctacttttt  | tactgggggtg | ggggaatcta | 2580 |
| tgcaaggagt  | aaagtaaaac  | catccagaat | caaagcagca  | accacatagt  | tcaaatcaaa | 2640 |
| gatcaagggtg | aattttttgt  | atcactgcct | gtggaaatct  | atcctcatca  | gtcattgcat | 2700 |
| ttttccctgc  | ctatacctgt  | gctccttttt | cttactgtgt  | tttcagtcac  | ttcctttctg | 2760 |
| tgaaagggtg  | cttagctttt  | tttttgacat | ttgttgttct  | ttatataaaa  | ataacagatt | 2820 |
| ggatagatgt  | gtacatttgg  | tgtttgaaat | tctctgaaaa  | tcccatagg   | aaaccaggtg | 2880 |
| tgaaaagggc  | tcagtagctt  | ctctgagtgg | cgttttttagc | tgactggaag  | tgcttaatct | 2940 |
| ggatcgtctt  | tttttttttt  | tttttttttc | aatatttttaa | aaggagaatt  | taaatactgt | 3000 |
| gcttactgtg  | aaatatatca  | gttggtgagc | cgggcgtggt  | gggtcacgcc  | tgtaatccca | 3060 |
| gcactttggg  | aggccaaggc  | gggttgatca | cccagggtca  | ggagtccaag  | accagcctgg | 3120 |
| ccaacatggt  | gaaagcctgt  | atctattaaa | agacaaaaat  | tagctgggcg  | tggtggtaca | 3180 |
| tgctgttaat  | cccagctaca  | ctggaggctg | agtcaggaga  | atcacttgaa  | cgtgggaggc | 3240 |
| agagggttgca | gtgagtggag  | atcgcaccac | tgccctccag  | cctaggtgac  | agaatgagac | 3300 |
| tctatctcaa  | aaaaaaaa    |            |             |             |            | 3318 |

&lt;210&gt; 2869

&lt;211&gt; 2617

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2869

|            |             |            |             |            |            |      |
|------------|-------------|------------|-------------|------------|------------|------|
| caagggccct | ttacattgcy  | ttcttaacgy | ttcagtcacc  | ttaaccgtta | ttattcactt | 60   |
| gcgggcgaga | agtccgagct  | agggatcctg | aaaaggaggg  | aacaattggt | gtagcaggtc | 120  |
| taaaagttca | ggtccagccc  | cggtttctct | ggattctgtg  | cttctccatg | gaggaaactc | 180  |
| aaggagaact | gacaagttct  | tgtggttcta | aaaccatggc  | caatgtatct | ttggcattta | 240  |
| gggatgtgtc | catagacctc  | tcccaagagg | agtgggagtg  | cctggacgct | gtgcagaggg | 300  |
| acttgtacaa | ggatgtgatg  | ttggagaact | acagcaacct  | ggtctcactg | gatttggaat | 360  |
| acaagtatat | taccaagaat  | ttgctttcag | aaaagaatgt  | ttgcaaaatc | tatttatctc | 420  |
| aattgcagac | aggggaaaaa  | agtaaaaaca | ccatccatga  | ggacaccatt | ttcagaaatg | 480  |
| gtttgcagtg | taaacatgaa  | tttgagagac | aagagagaca  | tcagatggga | tgcgtagtc  | 540  |
| aatgctaata | ccaaaaacaa  | atatctcatc | ctctacatcc  | aaaaattcat | gctagagaga | 600  |
| aatcatatga | atgtaaggaa  | tgtagaaagg | ccttttagaca | acagtcatac | cttattcaac | 660  |
| atctgagaat | tcacactggt  | gagagaccct | ataaatgtat  | ggaatgtgga | aaggcctttt | 720  |
| gtcgagtggg | agaccttaga  | gtacatcaca | caatccatgc  | tggggagaga | ccctatgaat | 780  |
| gtaaagaatg | tggaagggcc  | tttagacttc | attatcacct  | tactgaacat | cagagaatac | 840  |
| attctggtgt | gaaaccctac  | gagtgttaag | aatgtgggaa  | agcctttagt | cgtgttagag | 900  |
| accttagagt | acatcagaca  | attcatgctg | gagagagacc  | ctatgaatgc | aaagaatgtg | 960  |
| ggaaggcctt | tagacttcat  | tatcaactaa | ctgaacatca  | aagaattcat | actggtgaga | 1020 |
| ggccttatga | atgtaagggt  | tgtggcaaga | ccttttaggg  | acaacgacat | attagtcaac | 1080 |
| atcagaaaat | tcatactggt  | gtcaaaccct | ataaatgtaa  | tgaatgtggg | aaggccttta | 1140 |
| gtcatggctc | ataccttggt  | caacatcaga | aaattcatac  | tggtgaaaaa | ccctacgaat | 1200 |
| gtaaagaatg | tggttaagtcc | tttagttttc | atgcagaact  | tgctcgacat | cgtagaattc | 1260 |
| atactggtga | gaaaccctat  | gaatgtagag | aatgtggaaa  | agcctttctg | cttcaaacgg | 1320 |
| aacttactcg | gcatcataga  | actcatactg | gtgagaaacc  | ctatgaatgt | aaggaatgtg | 1380 |
| ggaaggcctt | tatttgtggt  | tatcaactta | ccttacatct  | gagaactcac | accggtgaga | 1440 |
| ttccctatga | atgtaaggaa  | tgtggaaaaa | ccttcagtag  | tcgctatcat | ctcactcaac | 1500 |
| actacagaat | tcatactggt  | gagaaaccct | acatatgtaa  | cgaatgtgga | aaagcctttc | 1560 |
| gtcttcaagg | agaacttacc  | cgacatcaca | gaattcatac  | atgtgagaaa | ccctatgaat | 1620 |

|             |             |             |            |             |            |      |
|-------------|-------------|-------------|------------|-------------|------------|------|
| gtaaggaatg  | tggggaaggct | tttattcata  | gcaatcaatt | tatttcacac  | cagcgaattc | 1680 |
| acaccagtga  | gagcacctac  | atatgtaaag  | aatgtgggaa | gatttttagt  | cgtcgctata | 1740 |
| atcttactca  | acatttttaa  | attcatactg  | gtgaaaaacc | ctacatatgt  | aatgaatgtg | 1800 |
| ggaaagcctt  | tcgatttcaa  | acagaactta  | ctcagcatca | cagaattcat  | actggtgaaa | 1860 |
| aaccctataa  | atgtacagaa  | tgtgggaagg  | cctttattcg | tagcactcat  | ctcacgcaac | 1920 |
| atcacagaat  | tcatactggg  | gagaaaccct  | acgaatgtac | ggaatgtggg  | aagacgttta | 1980 |
| gtcggcacta  | tcatacttact | caacatcaca  | gaggccatac | tggtgagaag  | ccctacatat | 2040 |
| gtaatgaatg  | tggggaatgct | tttatttgca  | gttatcgact | tacattacat  | caaagaattc | 2100 |
| acactgggtga | gcttccatat  | gaatgttaag  | aatgtggaaa | gaccttttagt | cgtcggtatc | 2160 |
| atcttactca  | acatttttaga | cttcatactg  | gtgagaaacc | ttatagctgt  | aaagaatgtg | 2220 |
| ggaatgcctt  | tcgtcttcaa  | gcagaactta  | ctcgacatca | catagtccac  | acgggtgaga | 2280 |
| aaccctataa  | atgtaaagaa  | tgtgggaaag  | ccttcagtgt | taattcagaa  | cttactcgac | 2340 |
| atcacagaat  | tcatactggg  | gaaaaaccct  | atcaatgtaa | agaatgtgga  | aaagccttta | 2400 |
| ttcgtagtga  | tcaacttact  | ttacatcaga  | gaaatcatat | tagtgaggaa  | gtcctatgca | 2460 |
| taatgtaaag  | agaatacgat  | ggccttttaga | aaatgccctt | tagcagagaa  | tttgtaattt | 2520 |
| aagaaatttt  | ctgtttggtta | cggaacatgt  | gggaatccct | tttacttcat  | gctcacaatt | 2580 |
| tatcagaaat  | tatttcgtat  | gttaaagagt  | cgaaaga    |             |            | 2617 |

<210> 2870  
 <211> 1050  
 <212> DNA  
 <213> Homo sapiens

|            |             |            |             |             |            |      |
|------------|-------------|------------|-------------|-------------|------------|------|
| <400> 2870 |             |            |             |             |            |      |
| ccggcctgac | ctctcgatcc  | ttcagcactt | cagagggttaa | ttttgttggg  | ggatcggatt | 60   |
| tctttcctgg | cctggggaat  | ggtgatccct | gctagctagt  | ccttttagtta | cagagttgct | 120  |
| gggtgcctgg | gattccctgg  | cccagtgtgg | gctggctcag  | ctggctaaag  | gacttgccat | 180  |
| cctgtgagat | tcattcagct  | tctttgtccg | ctgttctcca  | agggccgcaa  | tgtagtgaaa | 240  |
| tgctctggcc | taagaacctt  | acaagctggg | acgacagcag  | ctccgtcagc  | agcggcatca | 300  |
| gcgacaccat | agacaacctc  | agcactgatg | acatcaacac  | cagctcctcc  | atcagctctt | 360  |
| atgccaacac | acctgcctcc  | tctcgaaaaa | acctggatgt  | gcagactgat  | gctgagaagc | 420  |
| actcacaggt | ggagaggaat  | tccctgtggg | ctgggtgatga | tgtcaagaaa  | tcagacggag | 480  |
| gctcagacag | cggcataaaa  | atggagccag | gttccaagtg  | gaggcggaat  | ccttctgatg | 540  |
| tgtctgacga | gtccgacaaa  | agcacgtcgg | gcaagaagaa  | tcctgtcatc  | tcccagacag | 600  |
| gctcatggcg | gcgagggcatg | acagctcagg | tgggcatcac  | catgccaaagg | acgaaggctt | 660  |
| cagccccggc | aggcgcactg  | aagaccccag | gaactggtaa  | gaggccgggg  | ctgtcttggc | 720  |
| cctggggcac | caacgccagc  | agctcctccg | cagttagcaa  | ggatggcctg  | ggctttcagt | 780  |
| ctgtcagcag | cctccacacc  | agctgtgagt | ccatcgacat  | ctccctcagc  | agtggagggg | 840  |
| tccccagcca | caattcttcc  | actggcctca | tcgcctcctc  | caaggacgac  | tccttgactc | 900  |
| cctttgtcag | aactaacagt  | gtgaagacca | cactgtcaga  | aaggttgggtg | ctgtgcctct | 960  |
| ggctgccttt | ctcagaaaga  | cacccttcca | aaaataaaaa  | gattagctta  | ggaatcccaa | 1020 |
| atgtcgaata | gcctttgcct  | gtaagatttc |             |             |            | 1050 |

<210> 2871  
 <211> 3239  
 <212> DNA  
 <213> Homo sapiens

|            |            |            |            |             |            |     |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 2871 |            |            |            |             |            |     |
| tttcgtgggg | gagacggagc | cccaggagtg | ttgaagcctg | gaaatccctt  | cccctttccc | 60  |
| ctccccctt  | tacagtatcc | ccctccctcc | accctttccc | attctgataa  | tctggccatg | 120 |
| actagcagaa | gcacagctag | gcccattggg | caaccccagg | ccagcaaaat  | ttgccagttc | 180 |
| aaattgggtc | tgctgggaga | atctgcagtg | ggaaagtcaa | gcctgggtatt | acgttttgtc | 240 |
| aaagggcagt | tccatgagta | ccaggagagc | accattggag | cggccttcct  | cacccagtcc | 300 |
| gtttgtctag | atgacacaa  | agtgaagttt | gagatctggg | acacagctgg  | gcaggagcga | 360 |
| tatcacagct | tagcccccat | gtactacagg | ggtgcccaag | ctgcaatcgt  | ggtttacgac | 420 |
| attactaatc | aggaaacctt | tgcccagagc | aagacatggg | tgaagggaact | acagcgacag | 480 |
| gccagtcctt | agcatcggtg | ttggcctggc | agggaacaaa | gctgacctgg  | ccaacaaacg | 540 |



|             |             |             |            |             |             |      |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| tatggtggag  | tatgaagagg  | cccaggcata  | tgcagatgac | aacagcttat  | tgttcattgga | 600  |
| gacttcagcc  | aagacagcta  | tgaacgtgaa  | tgatctcttc | ctgggcaata  | gcttaagaag  | 660  |
| ttgccaaaag  | agtgaacccc  | cagaatcttg  | gaagggtgca | gcaggccgaa  | gccggggtgt  | 720  |
| ggatctccat  | gaacagtccc  | cagcagaaca  | agagccagtg | ttgttagcaac | tgagggggtg  | 780  |
| gctagcagca  | aacaagtatg  | gagctagcac  | aagagctaag | aaataaccgc  | catcgctac   | 840  |
| ccctcgacac  | acaaccccta  | cggtaacagc  | acactgagcc | ctggctccca  | agggctgtct  | 900  |
| cctgacagct  | ccgtcatggc  | actttttaac  | gcttcagcaa | caaacaccag  | gcagctgggtg | 960  |
| gccctggcct  | cctacccccc  | actctggggc  | ttgggggtca | actcccccca  | ggacttacct  | 1020 |
| tccaaaacaa  | acttccttca  | ctttgtatta  | taggtacaag | acagcgactt  | acgtatcttt  | 1080 |
| tctcctcctc  | cctagtgttc  | ctccccattt  | tttcagaaaa | cacttctgac  | tcctgtccct  | 1140 |
| tccccttctg  | cttttggtca  | gtccctgttc  | ttgagcctct | tttctcctct  | ccccaggatg  | 1200 |
| cagaaagtgg  | tgaacccagg  | aactgaggaa  | ggaggtttcc | agttcattta  | cattaagggc  | 1260 |
| cctggggggag | aataaagctc  | agagcaggag  | ggagtaagga | aacatttcct  | ttttgttttt  | 1320 |
| atttggttgg  | agtttctcat  | atttgaaaac  | attgcggtat | ccatgatttg  | gccttgtgga  | 1380 |
| gggtgttctt  | aggtagaggt  | gagaatgggg  | aggcaagatc | tcaggcacca  | ggcaggaggt  | 1440 |
| gccttgtaag  | ctaactgggc  | ggagggtggag | gtgcagtgtc | aactgtggct  | ctgtaactct  | 1500 |
| tcaaaggccc  | agtttccccc  | cacgcagcct  | cttaggtagc | gtttccccc   | atgggtgttt  | 1560 |
| ccctaactgt  | gggggttggg  | ccccagagtc  | ttccaaagaa | ttttcactgg  | ttgcctgcat  | 1620 |
| ctttggctct  | gctgtgatct  | gattggagga  | gggacagttt | ctggtaccca  | tcctctgatt  | 1680 |
| tatacatatg  | cattttttcc  | cctctggcct  | ttagatggcc | tcagccccag  | ccaccatata  | 1740 |
| cccctgcagt  | ttgcacttta  | attgatggta  | gttcagttgg | ggtacttggt  | ttatggaagt  | 1800 |
| tttgattgat  | ttacttgccc  | tcccaccttc  | tttttaattc | aatgaaatct  | gaggttaatg  | 1860 |
| cgaggttcga  | ggagagggtta | tagataaaaac | taccagtggc | agctactcaa  | gtcctatctc  | 1920 |
| cactgttagc  | ttcctccaac  | tctaattatt  | aacctatatt | cttgccaagc  | taactattga  | 1980 |
| ctatagggtt  | gcctttccctg | gagaattaat  | tgagcaattg | aggagtgtct  | caggatagca  | 2040 |
| caggccaagg  | taggggagta  | aaaaggagggt | caggcaaaag | ggaggagttt  | tctgtccttt  | 2100 |
| cccaggtttc  | acaactcaatt | tgatatccat  | taccatgtct | tttctacttc  | cttgtaaata  | 2160 |
| ggtatgatct  | ttattcccac  | tgtacagtct  | gttctatcct | ctgcctccca  | tcaggccctg  | 2220 |
| tttctttgtt  | cctttgttaa  | tatcttgaat  | ttagtccctc | catccttaat  | ccccccatcc  | 2280 |
| ctccccatca  | tgcaaccagt  | ggtttaatcc  | atgtaccaat | aggggctagt  | accacagagg  | 2340 |
| cctcctgtgg  | tgccctcgta  | tcataaccac  | tgttcctgtg | gagaggggaat | gaccggcact  | 2400 |
| gaaggtagct  | tacaactggc  | tcataattatc | agaggacctt | ggtcctttct  | aaatctctag  | 2460 |
| tctctcttca  | tatccttcat  | cagggtgttt  | aagatgtctc | tgagaagcca  | tcaaggcaaa  | 2520 |
| agagaacttt  | aagttccctg  | ttccagcccg  | gagttttggg | aaagaaagaa  | aggaaagggtc | 2580 |
| acagtgacct  | aggattggaa  | ccttccctg   | cttttggtct | gcagactgcc  | ttctatccca  | 2640 |
| gaacagctga  | gaaatctatg  | aagctgagat  | tctgaaggac | ccagcttagg  | ttcttccact  | 2700 |
| taggcctcaa  | ttcccttccc  | tttccagggg  | cagccttagt | tcccatggcc  | ctgaaacaca  | 2760 |
| cacatttccc  | ccttcccttc  | ccagaagcca  | ctggccccc  | atagcaccca  | gtgcatcctt  | 2820 |
| tttacaagtg  | gaagaactag  | gatggcttcc  | caaagtcttc | tagaaatgaa  | gttctttctc  | 2880 |
| tgtgcagctt  | tccccttggg  | agcaggagtg  | aagatgtttc | attatcttgg  | gcctgggaaa  | 2940 |
| ccacttcccc  | aggcttctcc  | ctccccccac  | ccccatagga | acaggatttg  | gccttagctt  | 3000 |
| ctgggcctat  | cggctgcctt  | ccctctactt  | cctaccacct | cttctgcctt  | cctttgagct  | 3060 |
| ctgttgggct  | tggggatctt  | agttttcttt  | tgtttatctt | ccagctcatt  | tttttcttct  | 3120 |
| ggtcagtttt  | tttaaggggg  | ggtgttgtgg  | ttttttgttt | ttgttttgct  | tctgagaaag  | 3180 |
| catttgccct  | tcttccctct  | ccaacataac  | aatcgtgggt | aacagaatgc  | gactgctga   | 3239 |

&lt;210&gt; 2872

&lt;211&gt; 2837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2872

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| tttttttttt | ttgactgttc | atggccatct | ttattcccag | tgctggctat | cccaaaatac | 60  |
| tgccaggcca | cagccaaccc | ccacctttgc | caatgtgact | gggtcaccac | cccatacacc | 120 |
| aaagcagcct | tgagccctgc | cccaccccct | gccctgcgga | agccaagtcc | ccagctataa | 180 |
| aacctgccc  | ctcctgggtg | cccaggaccc | tcaaagatgc | acacaggggc | cccagcgagg | 240 |
| ggccctccg  | tcattagcct | tctcctccag | gctgggctgc | caagcagcct | ggagctgagt | 300 |
| ctgtcccttg | gacgctgggc | cacgtcacct | tctcctccag | aaggcttcac | ctatgggccc | 360 |
| aggaagtcc  | ccttccgata | gcccttcgcc | cggaggtcac | ggtggagctt | gttgtactgc | 420 |
| cacaggttgg | ccaggaggct | ggatgctgcc | cgggaggact | tctcactgtc | ggggctgtcc | 480 |
| cgttctctct | tgatgaagat | gagctttcgg | agtcogtcaa | aatacagcag | gtctcgggca | 540 |

|             |            |             |            |             |            |      |
|-------------|------------|-------------|------------|-------------|------------|------|
| agcgaatggg  | gctggccaac | caacccaggt  | tgttgaacac | agctatgaat  | gttgaaccag | 600  |
| cacctcggct  | gggggcgact | tctcaccac   | gctgcctggc | agcttctcga  | atcaggtggc | 660  |
| tccaccacct  | tcgtggacat | ctcgtccttg  | ttcctagcgt | tccgagacag  | gtttcggatg | 720  |
| aggccagtc   | gtgagcgcag | ctgggtgggtg | tcggcggtcc | tgacacggtc  | tagcaggggg | 780  |
| ttcagaatac  | gctcctgctc | cagggccagg  | cggttagcc  | ccccggccc   | ccttgggttc | 840  |
| gcctcccgtg  | atgttctgca | gcgccccggc  | ggcgccctcc | gtcgtgtgcc  | ggttgagctc | 900  |
| gcagcgctgc  | agcagccggt | tgtacagccc  | cacgatctgg | gggctccaca  | gccactcgag | 960  |
| gcccttgggg  | tccttggaca | cctccgcgaa  | ggtgagcgca | tcggcgggca  | ggggcagctc | 1020 |
| gcgcagccgc  | cggctctgcg | gcgtgaagca  | gcccacgacc | tctcccggcg  | gcgccccgc  | 1080 |
| caggtccctg  | cggccgcgac | cctccagccg  | ctgcagcgcg | gacggcgcca  | tctcgtcgta | 1140 |
| gaggcggtag  | gacaggttcc | gcaggacgca  | caccgcgttc | tccacgctct  | tgtcctcgca | 1200 |
| tttgcccgcg  | tccagggcgt | ggttgataga  | ggtgaccagg | gcgtccacca  | gcccgtggca | 1260 |
| ctcccgcatc  | ttctggcgag | tggcctgaga  | ggctgagctg | aggttcctgg  | ggaagccggt | 1320 |
| ggcgttgtag  | aagatctccg | cctccgaggc  | gttctgctgg | atgagggggg  | ggacccccag | 1380 |
| cccccgacaa  | gggggctcaa | acaccaaggt  | cttgtgagct | gcttccagcg  | gtgtcttctt | 1440 |
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| tttgcggaagc | tcacatcct  | gctcccgag   | tgtccgcagc | agctcgaaga  | tcccgttctc | 1560 |
| ctccaccagg  | gccagcttgt | tgtcagcggt  | gtcgtagatg | aggttgcgca  | tggcacctgt | 1620 |
| ggcatggcgc  | tgcacttcct | ggttggcggtg | gttgaagagc | ttcaccagcc  | taggcacggc | 1680 |
| ctgaaggctg  | cgggcctgct | tcttggcggc  | tgcacgctg  | tagcacttgt  | gctggatgta | 1740 |
| ggcgcctccc  | agcacctgca | ggttggggtc  | tgaagccatg | aggtacttga  | ctgctgaggg | 1800 |
| caggtcaatg  | tcacaaaac  | cgctgctgag  | tctctgcagg | gttcgggtggc | taccgtagct | 1860 |
| gttgaaccca  | tgcacgtccg | gcaggtggcc  | cgagtcagcc | aggttgaggc  | tgaggctgcg | 1920 |
| cacagatggc  | gctcgagcca | ctggctccag  | gacggcccc  | ggcactgccc  | cgcctacccc | 1980 |
| gcggctccgg  | tggctgctct | ggaatcgctg  | cagggctccg | acggcagggg  | cacggatggt | 2040 |
| ccggctcggg  | gaaacctcag | tggcctcggg  | ccagtcagc  | ccccctgccc  | ggctggagct | 2100 |
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| catggcgga   | ggtccacggg | gcctgggcct  | ggcgcccgcc | tccaaaccca  | actatcttca | 2820 |
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&lt;210&gt; 2873

&lt;211&gt; 1195

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1195)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2873

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| tttaggagac | gcgcacacag  | aacatagagg  | taagagctag | aataccagca | atcttaggaa | 120 |
| ggcaaaatta | aatcatcttt  | tgggagaaga  | gagaaaattg | tgaggagaag | gtgccagtgt | 180 |
| caaagattgg | cttggcgagg  | ttattttctc  | tctgggagtc | tgggaggtga | tgagctccta | 240 |
| ccgctcactg | cctctgttgt  | cttgccctatt | ggttcctttc | tgggcaagga | agaacgttgt | 300 |
| ctctctttta | gagttttgta  | ggcctctgtc  | agtaatccgt | ggaagacagc | tgtcctgggg | 360 |
| cccagaatgg | caagtctctgt | aagtgaatgt  | tttctgttgg | gatgtcatca | tggaaaggct | 420 |
| caggtgtagt | ctggaatttg  | ggttgatgaa  | gactcattct | ataactcata | caattctcaa | 480 |
| aggatgcttt | tggatcatct  | gggattttca  | ttgttcttgg | ttgtaccatt | ttcatttctt | 540 |
| gacatgtgga | gcacagctgt  | tggtttctga  | gcagcatgga | gtcacactgg | ttcctcctgg | 600 |

|             |            |            |            |            |             |      |
|-------------|------------|------------|------------|------------|-------------|------|
| cctcagactt  | gctatcagct | gaagcctggc | ctccaagaag | agctgctcca | tttctatctg  | 660  |
| gagaagggat  | gagggcattg | aagagtcgtg | gaaggcagct | gtgacaggct | actttaaaagg | 720  |
| caacgcaaac  | atttgagacg | ccatgtcctg | caggcctcat | ttcctccatt | ctgtcttgct  | 780  |
| ttctttccca  | gccctgaaac | ccaggtcctt | ggtctttttc | ttctgttgca | ttcccttctc  | 840  |
| actcggtttc  | cttacgacca | gctcagcagc | aataacagga | atggagaggg | aattgtccac  | 900  |
| attcacagta  | caatgctctg | gttttatcag | gtctagagcc | agaggcactc | ggaatgttaa  | 960  |
| tggggccctc  | atttcccaag | cagctgtcct | ctggatagca | gatggcagtt | gtgacaggag  | 1020 |
| agtgcagca   | acctatgtgt | agcctggcca | aggtatgatg | cagatttcag | ccagtcccca  | 1080 |
| gaagccaaaa  | acacatttga | caattggaaa | catcctcata | ccctaggaca | atatctgctg  | 1140 |
| cgggtgtctaa | gggctgaaca | tcatccngaa | gccatggggc | ttcttgaacc | cttgg       | 1195 |

&lt;210&gt; 2874

&lt;211&gt; 4379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2874

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| gcgtgcttcc  | gtgggctggg | cgctgggttc  | gcggcgcgcc  | ctcctgctgc | ctccccggag | 180  |
| ctccccggcc  | agtagcgttt | agtcacatca  | agaaatagaa  | cagaattcag | ccatggcccc | 240  |
| aagaaagaga  | ggtggacgag | gtatttcatt  | catcttttgc  | tgtttccgaa | ataatgatca | 300  |
| cccagaaatc  | acgtatcggc | tgcgaaatga  | tagcaacttt  | gcgcttcaga | ccatggaacc | 360  |
| agcattgccc  | atgccccctg | tggaggagct  | ggatgtcatg  | ttcagtgaac | tggtgatga  | 420  |
| actggacctc  | acagacaaac | acagagaagc  | catgtttgca  | cttccagctg | agaaaaaatg | 480  |
| gcaaataatac | tgtagcaaga | aaaaggacca  | ggaagaaaac  | aaggagagct | caagttggcc | 540  |
| tgaattctac  | attgatcagc | tcaattccat  | ggctgctaga  | aaatctctgc | tggctttaga | 600  |
| gaaggaagaa  | gaagaagaaa | gaagtaaaac  | tatagagagt  | ttaaagacag | cactgaggac | 660  |
| aaaaccaatg  | aggtttgtaa | ccagattcat  | cgacttggat  | ggcctatcat | gtatcctcaa | 720  |
| ctttctaaag  | accatggact | acgagacctc  | agagtctcga  | atacatactt | ctctcattgg | 780  |
| ctgtataaaa  | gcgttaatga | acaactctca  | aggccgggct  | cacgtcctgg | ctcattctga | 840  |
| gagtattaat  | gtaattgctc | agagtctgag  | cacagagaac  | attaaaacga | aggtggccgt | 900  |
| gctggaaatc  | ttgggcgcgc | tgtgcctggg  | tcccgggggc  | cacaagaagg | ttctgcaggc | 960  |
| catgctgcac  | taccagaagt | atgccagcga  | aaggaccgcg  | tttcagacat | taattaacga | 1020 |
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| acgaaaattc  | aacattagat | aggcatttag  | acttttttga  | aatgctccga | aatgaagatg | 1260 |
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| tgtttgagct  | gaccaggaag | aggctgacac  | atagtgaagc  | ttaccgcgat | ttcatgtcca | 1380 |
| tcctgcacca  | ctgcctccaa | atgccttaca  | agaggagtgg  | caacactgtt | cagtactggc | 1440 |
| tactactaga  | tagaattata | cagcagatag  | ttatccagaa  | tgacaaagga | caggaccctg | 1500 |
| actccacacc  | tttgaaaaac | tttaatatata | agaatgtcgt  | acgaatgttg | gttaatgaaa | 1560 |
| atgaagttaa  | gcagtggaaa | gaacaagcgg  | aaaaaatgag  | aaaagagcac | aatgagctac | 1620 |
| aacagaaact  | ggaaaagaaa | gaacgagaat  | gtgatgctaa  | gactcaagag | aaggaagaga | 1680 |
| tgatgcagac  | cttaataaaa | atgaaagaga  | aacttgaaaa  | ggagactact | gagcataagc | 1740 |
| aagtcaagca  | gcaggtggcg | gacctcacag  | cacagctcca  | tgagctcagc | aggagggccg | 1800 |
| tctgtgcttc  | aatcccaggt | ggaccctcgc  | ctggagcacc  | aggagggccc | tttccttcct | 1860 |
| ctgtgcctgg  | atctctcctt | cctccccccac | cacccccacc  | tctaccaggt | gggatgcttc | 1920 |
| cccctccacc  | gcctcccctc | cctccagggtg | gccctcctcc  | tccccagggt | cctcctccct | 1980 |
| tagggggcaat | catgccacct | cctgggtgctc | caatgggcct  | agcactgaag | aagaaaagca | 2040 |
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| actccaagca  | gaaagaagca | gatgccattg  | atgacactct  | gagttccaaa | cttaaagtta | 2280 |
| aagagctttc  | ggtgattgat | ggtcggagag  | ctcagaattg  | caacatcctt | ctatcgaggt | 2340 |
| tgaaattatc  | caatgacgaa | atcaaaccggg | caattctaac  | aatggacgaa | caggaagatc | 2400 |
| tgcccaagga  | catgttgga  | cagctcttga  | aatttgttcc  | tgaaaaaagt | gacattgacc | 2460 |
| tattggagga  | acataaacat | gaactggatc  | ggatggccaa  | ggctgatagg | ttcctttttg | 2520 |
| agatgagccg  | aattaatcac | tatcagcaaa  | ggttgcaatc  | gctgtacttc | aaaaagaagt | 2580 |
| ttgcagagcg  | tgtggcagaa | gtgaaacctc  | aagtggaagc  | aattcgttct | ggctcagaag | 2640 |



|             |             |            |            |            |             |      |
|-------------|-------------|------------|------------|------------|-------------|------|
| aggtgttttag | gagtgggtgcc | ctcaagcagt | tgctggaggt | ggtttttgca | tttggaaatt  | 2700 |
| atatgaataa  | aggtcaaaga  | gggaatgcat | atggattcaa | gatatctagc | ctaaacaaaa  | 2760 |
| ttgctgacac  | aaaatccagc  | atcgacaaaa | acattaccct | tttgactat  | ctcatcacta  | 2820 |
| ttgtggaaaa  | taagtacccc  | agtgttctca | atctaaatga | agaattgcga | gatattcctc  | 2880 |
| aagctgcgaa  | agtaaacaatg | actgagctgg | acaaagaaat | aagtaccttg | agaagtggct  | 2940 |
| tgaaagcagt  | agagacagag  | ctggaatatc | agaagtctca | gccccacag  | cccggagata  | 3000 |
| agtttgtgtc  | tgttgtcagc  | cagttcatca | cagtagccag | cttcagcttc | tctgatgttg  | 3060 |
| aagaccttct  | agcagaagct  | aaagacctgt | ttactaaagc | agtgaagcac | tttggggaag  | 3120 |
| aggctggcaa  | aatacaacca  | gatgagttct | ttggcatttt | tgatcaattt | cttcaagctg  | 3180 |
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| gaagcacaaat | actatctcct  | gaaagagata | agagacattc | cctagattca | aaggcaaac   | 3840 |
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| attgccagag  | tatgcttgtt  | ctaacaatat | agatatataa | accttaaaaa | taataaaaata | 4320 |
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&lt;210&gt; 2875

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2875

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| ctcagatggt | ccacacgt   |             |            |            |            | 1278 |



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<212> DNA  
<213> Homo sapiens

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gctgcccaga atatttgtac aagtaaactg cactgccctg ctgccctga gcacacggac 180  
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&lt;211&gt; 4351

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2877

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| ggatcgtcct  | cctggccccg | ccaaacaggc  | ggggggagcg | gccccgactg  | tggggccatg | 120  |
| gcagtagtct  | cctcgttctc | cgcgcgcgct  | agcctagctg | agtcgcgggc  | ttctgcgcta | 180  |
| ggggctccca  | ccgcctccgc | aggctaagga  | gccgctgcca | ccaacgagct  | gtgagggtta | 240  |
| ctatgctccc  | tctttgccgc | cgtctcctcc  | tcttgcccgc | gcaggcaccc  | ctctggctgc | 300  |
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| ggcttctttt  | ctgaagtgtt | caaggtaaga  | caccgagctt | ctggtcagg   | gatggctctt | 660  |
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| attttccataa | cttgacttct | gttgattttt  | tttttttgta  | aaactttccc  | aaggacattt  | 3000 |
| tcagacttaa  | aaataaagtc | agtgttacag  | gtgctgggtca | gccttcttac  | ttgtacctca  | 3060 |
| aacactggga  | taaaggaggc | ggtccagggc  | aatgcagtga  | tgtctgtcaa  | gacattcccc  | 3120 |
| ctcccctaaa  | ctcagtagca | gttgaggatg  | acatttcagg  | ctagagagac  | ccaaaatacc  | 3180 |
| tctgttccac  | ctgagagcaa | ggtgggaagt  | tgcatacagc  | acttgcccca  | agtgagcttc  | 3240 |
| atcttctgga  | ttgtggggct | ttgggagggg  | acgaggagga  | actgggctct  | tggggccact  | 3300 |
| gtgaggggta  | cagctttgcc | cactcaaata  | taccttattg  | tggcattcag  | ggagccaggg  | 3360 |
| tccagagctg  | cagggctgcg | gtccctggct  | cacttccaca  | taggccatca  | cataacctgt  | 3420 |
| cataaaggca  | tcaaaaccag | cccgggtgcaa | tccatcccca  | ggcactgggt  | taggactggc  | 3480 |
| ttggctccct  | ggcacttctg | aggtagctct  | atcagctatt  | tcaggccttg  | ctgccttaat  | 3540 |
| cccatctctc  | aagtcatttt | tgttgccctg  | cttgagatga  | ggcagggttc  | tagtttcatc  | 3600 |
| ggcagccacc  | tctgtctcgg | tttcttcagg  | cttgatgcta  | tccccacaga  | cctgcttctt  | 3660 |
| gggaggacca  | tccttagctt | ccccagaggt  | ctgtgtcccc  | ggtaggttca  | ataaagccct  | 3720 |
| cttccgtttt  | tccctacgtc | gtcgccgtcg  | ccgcttgtcc  | tctgccgcag  | cctcatcagt  | 3780 |
| gtcaatgata  | aggtcaatat | cgtgagactg  | aggacactgt  | ggtcccaggg  | ggcaccagcc  | 3840 |
| ataagccgag  | aagttgtcac | agatgctggg  | gggatgagga  | cgggtgggtt  | ctgggggcag  | 3900 |
| gcagcagcgg  | taatcaatat | ggtccctcat  | gctggaagga  | tagttgcaga  | actccagggt  | 3960 |
| aagggtgtgg  | ctgccagctg | cccgtctgct  | cccattttcc  | cgttcactgc  | aacagcgcaa  | 4020 |
| gagggtaatg  | gtccactagc | atataagctc  | cataagagca  | gggttttgtg  | gtctgttttg  | 4080 |
| ttcactgctg  | aatcctcagc | acctaaaaca  | ctgcctgggc  | acatggtagg  | agctcaataa  | 4140 |
| at          |            |             |             |             |             | 4142 |

&lt;210&gt; 2879

&lt;211&gt; 4142

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2879

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gaattcgcgg | ccgctcgacg | ctcagcagag | ctaccagctg | ccctgttggc | ttcgctggtc | 60  |
| ggatcgctct | cctggccccg | ccaaacaggc | ggggggagcg | gccccgactg | tggggccatg | 120 |
| gcagtagtct | cctcgttctc | cgccgccgct | agcctagctg | agtcgccggc | ttctgcgcta | 180 |



|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| ggggetccca | ccgcctccgc  | aggctaagga  | gccgctgcca  | ccaacgagct  | gtgagggtta  | 240  |
| ctatgctccc | tctttgccgc  | cgtctcctcc  | tcttgcccgc  | gcaggcaccc  | ctctggctgc  | 300  |
| tcagtcctgc | ctcagtgtca  | aaccagaaga  | gaagtaaaat  | tcaacaaaaa  | tttatgtgtg  | 360  |
| gagttccttc | ttaaaagaag  | aaaaaagtga  | ttatttagac  | tatggatcgg  | agcaaacgga  | 420  |
| attcaattgc | aggatttcct  | ccacgtgtgg  | agccgtcttg  | aagagtttga  | aggaggtggg  | 480  |
| ggaggagaag | gaaatgtgag  | ccaggtggga  | agagtttggc  | catcttcgta  | tcgagctctt  | 540  |
| ataagtgcct | ttttcagact  | gacgcgtttg  | gatgatttca  | cctgtgaaaa  | aatagggtct  | 600  |
| ggcttccttt | ctgaagtgtt  | caagggtacga | caccgagctt  | ctggtcaggt  | gatggctctt  | 660  |
| aagatgaaca | cattgagcag  | taaccgggca  | aacatgctga  | aagaagtaca  | gctcatgaat  | 720  |
| agactctccc | atcccaacat  | ccttaggtat  | atcaactccg  | ggaacctgga  | acagttgcta  | 780  |
| gacagtaacc | tgcatttgcc  | ttggactgtg  | agggtaaaac  | tggcctatga  | catagcagtg  | 840  |
| ggcctcagct | accttcactt  | caaaggcatt  | tttcatcggg  | acctcacatc  | taagaactgc  | 900  |
| ctgataaaga | gggatgagaa  | tggttactct  | gcagtggtag  | ctgactttgg  | cctggctgag  | 960  |
| aagatccccg | atgtcagcat  | ggggagttag  | aagctggccg  | tgggtgggttc | cccattctgg  | 1020 |
| atggcacctg | aggttctccg  | agatgagccc  | tataatgaaa  | aggcagatgt  | gttctcttat  | 1080 |
| ggtatcatcc | tctgcgagat  | catcgcccgc  | atccaggccg  | atccggacta  | tcttccccgc  | 1140 |
| acagagaatt | tcgggctgga  | ctatgatgct  | ttccagcaca  | tgggtgggaga | ctgtccccc   | 1200 |
| gattttctgc | aacttacttt  | caactgctgt  | aacatggatc  | ccaaactgcg  | cccatctttt  | 1260 |
| gtggagattg | ggaagaccct  | ggaggaaatt  | ctgagccgcc  | tacaggaaga  | agagcaggag  | 1320 |
| agggatagga | agctgcagcc  | cacagccagg  | ggactcttgg  | agaaagcacc  | tgggggtgaag | 1380 |
| cgactaagct | cactggatga  | caagatcccc  | cacaagtac   | catgcccagg  | acgtaccatc  | 1440 |
| tggctgtctc | gaagccagtc  | agatatcttt  | tcccgtaaag  | ccccacgtac  | agtgagtgtc  | 1500 |
| ttggacccat | actaccggcc  | acgagatggg  | gctgcccgc   | cccccaaagt  | caaccctttt  | 1560 |
| agtgtctgcc | aggacctcat  | ggggggcaag  | atcaagtttt  | ttgacctgcc  | cagcaagtct  | 1620 |
| gtcatctctc | tgggtatttga | cctggatgca  | ccagggcccg  | gaactatgcc  | cctggctgac  | 1680 |
| tggcaggagc | ccctggcccc  | acctattcgc  | cgggtggcgt  | ccttgccctgg | tccgctgag   | 1740 |
| ttcttgcatc | aagaggcttg  | tccattttgtg | ggccgggaag  | aatcgctatc  | tgatgggccc  | 1800 |
| ccaccacgcc | taagtagtct  | caagtacaga  | gttaaagaga  | tcccaccatt  | ccgggcatct  | 1860 |
| gccctaccag | ctgctcaagc  | ccatgaggct  | atggactgct  | ccattctcca  | ggaagaaaat  | 1920 |
| ggttttgggt | ccaggcccca  | ggggaaccagt | ccatgccctg  | cgggtgcttc  | tgaggagatg  | 1980 |
| gaggtagaag | aaaggccagc  | aggctcaact  | ccagccacct  | tctccacctc  | aggcataggc  | 2040 |
| ctgcaaacc  | agggaaagca  | ggatgggtga  | gggggtttag  | tccctgcctc  | accttgggga  | 2100 |
| tggaccttca | gctgaaacca  | tatggcccc   | taggtgcaca  | gccttgatcc  | ttccctggag  | 2160 |
| cctacagagc | aggcaggcta  | ggccaagcca  | ggctcaactt  | ctgggctccc  | agtgccatt   | 2220 |
| ggctgtgtat | gacgggaggc  | agcagtgaga  | ggccttccta  | gttagggcca  | acagctgata  | 2280 |
| ccaagcctct | gaaatccagc  | aaggaggtct  | gcctcccacc  | agaccctctc  | cagtgtactt  | 2340 |
| ccccagatag | gaccagagga  | tgtctagtct  | taggtgagc   | tggcaggcag  | ctattacccc  | 2400 |
| ggttctttcc | ccaccccagg  | tctgtctctt  | gccttttctt  | ggggcatata  | agctactgag  | 2460 |
| tggaacatgg | agctgatcaa  | gaggccgtaa  | cggctcatgg  | tgtttcccag  | acctgaatat  | 2520 |
| tgggggtgct | cttgccagta  | ttctaagaca  | tttgagtaat  | tgtgttttgc  | acttactgca  | 2580 |
| tggtcagacc | acgtcactac  | atttctatgc  | aaggggacag  | caaggcagcg  | tgggtggcat  | 2640 |
| ggctcttagc | taacctatcc  | aaagaccttt  | tccgtgtgat  | taatctatct  | tcatatttat  | 2700 |
| aaaggagtct | taatgttctg  | cccataaga   | ctttcaacct  | tgtgggtggg  | agtggggctg  | 2760 |
| gttttgtagg | ccctagggcc  | tgtctctatg  | tatttatcaa  | catgtgatac  | attcaattgg  | 2820 |
| ttaaatgggt | tatacaggga  | ctgatttgc   | tcccttccctg | ccctggctgg  | gagctttggg  | 2880 |
| gaacagtctg | tcccttacag  | agctgcaata  | agaaataacc  | aaagatgaag  | ctgggtcaa   | 2940 |
| attttcataa | cttgacttct  | gttgattttt  | tttttttgta  | aaactttccc  | aaggacattt  | 3000 |
| tcagacttaa | aaataaagtc  | agtgttacag  | gtgctgggtca | gccttcttac  | ttgtacctca  | 3060 |
| aacactggga | taaaggaggc  | ggtccagggc  | aatgcagtga  | tgtctgtcaa  | gacattcccc  | 3120 |
| ctcccctaaa | ctcagtagca  | gttgaggatg  | acatttcagg  | ctagagagac  | ccaaaatacc  | 3180 |
| tctgttccac | ctgagagcaa  | ggtgggaagt  | tgcatacagc  | acttgcccca  | agtgagcttc  | 3240 |
| atcttctgga | ttgtggggct  | ttgggaggga  | acgaggagga  | actgggctct  | tggggccact  | 3300 |
| gtgaggggta | cagctttgcc  | cactcaaata  | taccttattg  | tggcattcag  | ggagccaggg  | 3360 |
| tccagagctg | cagggctgcg  | gtccctggct  | cacttccaca  | taggccatca  | cataacctgt  | 3420 |
| cataaaggca | tcaaaaccag  | cccggtgcaa  | tccatcccca  | ggcactgggt  | taggactggc  | 3480 |
| ttggctccct | ggcacttctg  | aggtagctct  | atcagctatt  | tcaggccttg  | ctgccttaat  | 3540 |
| ccccatctct | aagtcatttt  | tgttgccttg  | cttggagtga  | ggcaggttcc  | tagtttcatc  | 3600 |
| ggcagccacc | tccctgctcg  | tttcttcagg  | cttgatgcta  | tccccacaga  | cctgcttctt  | 3660 |
| gggaggacca | tccttagctt  | ccccagagg   | ctgtgtcccc  | ggtagggttc  | ataaagccct  | 3720 |
| cttccggttt | tccctacgtc  | gtcgcctgcg  | ccgcttgctc  | tctgccgcag  | cctcatcagt  | 3780 |
| gtcaatgata | aggtaaatat  | cgtgagactg  | aggacactgt  | ggtcccagg   | ggcaccagcc  | 3840 |
| ataagccgag | aagttgtcac  | agatgctggg  | gggatgagga  | cgggtgggtg  | ctgggggcag  | 3900 |
| gcagcagcgg | taatcaatat  | ggtccctcat  | gctggaagga  | tagttgcaga  | actccagggt  | 3960 |
| aaggtgtggg | ctgccagctg  | cccgtgctct  | ccatttttcc  | cgttcaactgc | aacagcgcaa  | 4020 |

|            |            |            |            |            |            |      |
|------------|------------|------------|------------|------------|------------|------|
| gagggtaatg | gtccactagc | atataagctc | cataagagca | gggttttgtg | gtctgttttg | 4080 |
| ttcactgctg | aatcctcagc | acctaaaaca | ctgcctgggc | acatggtagg | agctcaataa | 4140 |
| at         |            |            |            |            |            | 4142 |

&lt;210&gt; 2880

&lt;211&gt; 911

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2880

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| tttcgtggaa | catggactct | gactcttgcg | ccgccgcctt | ccacccggag | gaatactccc  | 60  |
| ccagttgcaa | gaggcgcagg | accgtggaag | acttcaacaa | attctgcacc | tttgtcttgg  | 120 |
| cctatgctgg | ctacatccct | tatccgaagg | aggaactccc | tttaaggagc | agccccagcc  | 180 |
| ctgctaacag | cactgctggg | accattgaca | gcgacggctg | ggacgcgggt | ttctcagaca  | 240 |
| tcgcgtcctc | agtgcccttg | ccagtctctg | accgtgctt  | tagccacctg | cagcctactc  | 300 |
| tcttgacagc | agccaagccc | agtaacttcc | tgctggacag | aaagaaaacg | gacaagctga  | 360 |
| agaagaagaa | gaagaggaag | cgcagggaca | gtgatgcgcc | tgggaaagag | gggtacaggg  | 420 |
| ggggcttgct | gaagctggaa | gccgctgacc | cctacgtgga | gacccccacg | agtcccacct  | 480 |
| tgcaggatat | cccccaggct | cccagcgacc | cctgctcggg | ctgggactcc | gatactccct  | 540 |
| cgagtggatc | ttgtgccact | gtgtcacctg | atcaggtcaa | agaaataaaa | actgaaggca  | 600 |
| aacggactat | cgtccggcgg | aagcccagct | gatggcgagg | aatgatggga | atttctcttc  | 660 |
| cctccttgag | agtatctttc | cttccagatg | acgattcctg | ggacctcgtg | acctgcttct  | 720 |
| gcatgaagcc | atttgccggc | cgcgccatga | tcgagtgtaa | tgagtgccac | acctggattc  | 780 |
| acctgtcctg | tgcgaaaatc | cggaaatcca | atgttccaga | agtgtttgtc | tgccaaaagt  | 840 |
| gccgggactc | caagtttgac | atccgccgtt | ccaaccgctc | gcggacgggc | tcccgggaagc | 900 |
| tgttcctgga | c          |            |            |            |             | 911 |

&lt;210&gt; 2881

&lt;211&gt; 7290

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2881

|             |             |             |            |             |             |      |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| cccaggagag  | gctgcggagc  | cgcagccgcc  | cagaccgcgc | agcgcggggag | gcagggttccg | 60   |
| cacgtgggag  | gcagcccaag  | cgcactgagc  | gcgtggagca | gttcctgacc  | attgcgcggc  | 120  |
| gccgcggcag  | gaggagcatg  | cctgtctccc  | tggaggattc | tggtagagcc  | acgtcctgcc  | 180  |
| ccgccacaga  | cgcgcgagaca | gcctccgagg  | gcagcgtgga | aagcgccttct | gagaccagaa  | 240  |
| gcggccccca  | gtctgcttcc  | acagctgtga  | aggaacgacc | agcctcttct  | gaaaagggtga | 300  |
| aaggaggggga | tgaccacgat  | gacacctccg  | atagtgcagc | cgatggcctg  | accttgaaag  | 360  |
| agcttcagaa  | tcgccttcgc  | aggaagcggg  | aacaggagcc | cactgagagg  | cccctgaaag  | 420  |
| ggatccagag  | tcgcctgcgg  | aagaagcgcc  | gggaggaggg | tcccgcggag  | actgtgggct  | 480  |
| ccgaggccag  | tgacactgtg  | gagggcgtcc  | tgcccagtaa | gcaggagccc  | gagaacgac   | 540  |
| aggggggttg  | gtcccaggct  | gggaaagatg  | acagagagag | taagttggag  | ggaaaggcgg  | 600  |
| ctcaggacat  | caagagatgag | gagcctggag  | acttgggccc | accgaagcct  | gaatgtgagg  | 660  |
| gttacgaccc  | caacgccttg  | tattgcattt  | gccgccagcc | tcacaacaac  | aggtttatga  | 720  |
| tttgctgtga  | ccgctgtgaa  | gaatggtttc  | atggcgattg | tgtgggcatt  | tctgaggctc  | 780  |
| gagggaggct  | tttggaagag  | aatgggggaag | actatatctg | cccaaactgc  | accattctgc  | 840  |
| aagtgcagga  | tgagactcat  | tcagaaaacg  | cagatcagca | ggaagctaaa  | tggagacctg  | 900  |
| gagatgctga  | tggcacccat  | tgtacaagta  | taggaacaat | agagcagaag  | tctagcgaag  | 960  |
| accaagggat  | aaagggtaga  | attgagaaag  | ctgcaaatcc | aagtggcaag  | aagaaactca  | 1020 |
| agatcttcca  | gcctgggtccc | gggcctgtcc  | ccaccagct  | gcctgtcctc  | tggcagggtat | 1080 |
| tggaaattgc  | tgtgtctaga  | agcatctctg  | ccttcacact | cttgcaactg  | attagctgca  | 1140 |
| aggtgataga  | ggcgcttggt  | gcctcaaaat  | gtattggccc | cgggtgctgt  | cacgtggcgc  | 1200 |
| agcccgaactc | ggtgtactgc  | agtaatgact  | gtatcctcaa | acacgccgca  | gcgacaatga  | 1260 |
| agtttctaag  | ctcaggtaaa  | gaacagaagc  | caaagcctaa | agaaaagatg  | aagatgaagc  | 1320 |
| cagagaagcc  | cagtcttccg  | aaatgcgggt  | ctcaggcagg | tattaaaatc  | tcttctgtgc  | 1380 |
| acaagagacc  | agctccagaa  | aaaaaagaga  | ccacagtga  | gaaggcagtg  | gtggtcctctg | 1440 |
| cgcggagtg   | agcactcggg  | aagggaagcag | cttgtgagag | cagcacgccg  | tcgtgggcga  | 1500 |

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| gcgatcacaa  | ttacaatgca  | gtaaagccag  | aaaagactgc  | tgctccctcg  | ccgtcactgt  | 1560 |
| tgtataaatc  | cacgaaggaa  | gaçaggaggt  | ccgaggagaa  | agcggcagcc  | acggcagcct  | 1620 |
| caaagaaaac  | agcccccca   | ggctccacgg  | tgggcaagca  | gcctgcacct  | agaaacctcg  | 1680 |
| tgccaaagaa  | gtcttctttt  | gctaattgtg  | cagcagccac  | accagccatt  | aaaaagccac  | 1740 |
| cctcaggttt  | caagggcacc  | atcccccaaga | ggccatggct  | ctccgctacc  | ccatcgagt   | 1800 |
| gtgcttcagc  | tgccaggcag  | gccggaccgg  | cacctgcagc  | ggcgacggct  | gcctccaaga  | 1860 |
| agttccctgg  | ctccgctgct  | ttgggtgggag | ccgtaaggaa  | gccagtggta  | ccttctgttc  | 1920 |
| caatggcctc  | gccagcccca  | ggacgccttg  | gggctatgag  | tgctgcacca  | tcgcagccaa  | 1980 |
| attcacaaat  | tgggcaaaat  | atcagacgct  | ccttaaaaaga | gattttgtgg  | aaaagttcct  | 2040 |
| tttttttatt  | ctgttcagag  | tcaatgacag  | cgatgactta  | atcatgacag  | aaaacgaagt  | 2100 |
| aggaaaaatt  | gccctccata  | ttgagaagga  | gatgtttaac  | ttgtttcaag  | ttacagataa  | 2160 |
| tcggcttaca  | agagtaaata  | tcgcagcacc  | atgttcaact  | tgaaggacc   | taaaaatcag  | 2220 |
| ggactcttcc  | atcgtgttct  | gcgtgaggaa  | atctctttgg  | cgaaacttgt  | gagactgaag  | 2280 |
| ccagaagaac  | ttgtatctaa  | agagctttcc  | acgtggaaag  | agaggccagc  | gagatctgtg  | 2340 |
| atggagtcca  | gaactaaact  | gcacaatgaa  | agcaagaaga  | cggcccccag  | gcaggaggcc  | 2400 |
| atccccgac   | tggaggactc  | tccgccagtg  | tcggattcag  | aggaacagca  | agagtcagca  | 2460 |
| cgtgctgtcc  | ctgagaagag  | cacagcgccg  | cttctcgacg  | tcttcagcag  | catgttgaaa  | 2520 |
| gacaccacca  | gtcagcaccg  | cgcacacctc  | ttcgatctca  | actgtaaaat  | ttgcacaggc  | 2580 |
| caggttccct  | ccgcagaaga  | tgagccagct  | ccgaaaaaac  | aaaaattgtc  | agcttctgtt  | 2640 |
| aagaaagaag  | acttaaaatc  | aaagcatgac  | agctctgcac  | ctgaccagc   | tccggattca  | 2700 |
| gctgatgagg  | tgatgccgga  | ggctgtgcct  | gaagttgcct  | ctgagccagg  | cctagaaagt  | 2760 |
| gcttctcacc  | caaatgtgga  | cagaacgtat  | ttccctgggc  | ctccaggaga  | tggccatccc  | 2820 |
| gagccctccc  | cgtggaaga   | cctgtccccc  | tgcccagcct  | cctgtgggag  | cgggggtggtc | 2880 |
| accaccgtca  | cagtgtccgg  | ccgggacccc  | aggaccgctc  | caagcagttc  | atgcacagcc  | 2940 |
| gtggcctccg  | cagcatcctg  | cccagacagc  | accacatgg   | tgggaagccag | acaggatgtg  | 3000 |
| ccgaagcctg  | tcttgacttc  | tgtgatgggt  | cccaagtcca  | tactagctaa  | gccatcctca  | 3060 |
| tctcctgacc  | caagatacct  | gtcagttcct  | ccgtcaccaa  | atatcagcac  | ttcagaatca  | 3120 |
| cgttccctcc  | cagagggaga  | cacgaccctc  | tttttgtctc  | gactcagcac  | catttgga    | 3180 |
| ggattttatta | acatgcagag  | tgtggcaaaa  | tttgtacta   | aggcgtatcc  | tgtctctggg  | 3240 |
| tgttttgatt  | acctcagtga  | ggatttgctt  | gacacaattc  | acattgggtg  | gaggatcgca  | 3300 |
| ccgaagacag  | tttgggatta  | tgttggcaaa  | ctcaagtctt  | ctgtgtctaa  | ggagctctgt  | 3360 |
| ctgatccgct  | tccaccccg   | cacagaggaa  | gaggaggtcg  | cctatatctc  | tctctactcc  | 3420 |
| tatttcagca  | gccgtggccg  | ctttggtgtt  | gtagctaata  | acaacaggca  | cgtcaaggac  | 3480 |
| ctctacctga  | tcccgtgag   | cgcaccagg   | cctgttccat  | ccaaactctt  | gccctttgag  | 3540 |
| ggaccaggta  | agcgcgggct  | ttctgggtg   | aggtgaggcc  | cacctgcacc  | tgcacccctc  | 3600 |
| ctcccactga  | catgccctgc  | tgagtcctga  | ccagcccagg  | gctctctggg  | agcaggagtt  | 3660 |
| aggagcacag  | acgcagcggt  | tagcaatagg  | attcatcttt  | gagggcgtag  | gactgtggca  | 3720 |
| cgagaagtac  | ccctgattca  | cagcataaat  | tgtcttagga  | gagtttttta  | gagagggaaa  | 3780 |
| aaccacacag  | ctgcaaccag  | ctcatcttgg  | cctcaggtca  | gagaagactc  | agtgccag    | 3840 |
| agcccaaggc  | tcagccagaa  | agggaggtga  | cactcccagc  | ggccctgctc  | tttctctag   | 3900 |
| acagactcgg  | gagccagcac  | acaccgggaa  | gtggctccat  | cagggatcac  | ttctctaaca  | 3960 |
| gggatggatt  | tccaggagac  | ttaacaataa  | tgacatagaa  | aactatctct  | agaaataatt  | 4020 |
| atttttaaat  | ctgcagctca  | aattgtaata  | gttcattcat  | ctttggcaag  | ctattttgtg  | 4080 |
| tttgcacgtt  | ccttggaag   | tactgtat    | aaacgattat  | ttacaaatag  | cctaaaatac  | 4140 |
| atctttgtca  | agggttgagg  | gtgattccag  | gggccacgtg  | ctctgttagt  | gaccagctct  | 4200 |
| ttcatagccc  | cttagaagaa  | gctgatgtga  | cttcagttag  | gggttagtat  | ctgatgcca   | 4260 |
| actgaagtgt  | ctccgtggcc  | atgcagtcct  | cagaggattg  | gtgttctctc  | aaagcgggtg  | 4320 |
| tgtggatcac  | acagtgtcct  | ctaaagtgtc  | tcgtcataaa  | ggcaggtgct  | gtctggaccc  | 4380 |
| tgtgcctcag  | tgccctctgt  | ccctgtcacc  | aggcctcggc  | gggtgttcc   | gccatagctg  | 4440 |
| tgcagggtgt  | tcccacccac  | acccctcatg  | ccgcacccta  | gctagctggg  | gtcctgtagg  | 4500 |
| ggccactcca  | catcttgggc  | gggacttctg  | tcgcccagg   | cacagccac   | gttcctactg  | 4560 |
| gagcccatc   | ttcacagctg  | gagtgggtc   | agcctatgcc  | tgtgttgtgg  | aattatatgt  | 4620 |
| ccataaagg   | attggttgt   | atcagtaatt  | tcagggttaa  | atatttgctg  | gcgtagtga   | 4680 |
| ttaaattatt  | ttagtgccag  | ataaattttt  | aaaagcaaa   | tgcttttagt  | tgtccctca   | 4740 |
| aatcctactt  | gggataaaga  | gatgccacct  | aatgggtggc  | agaaaggacc  | ctggtagagg  | 4800 |
| ttcttggtgt  | tgcttgtgaa  | gagctctggc  | cagctccacg  | tgaccaggga  | gaggaaaagc  | 4860 |
| ccggccctcc  | tggagggtgaa | gaccgagaag  | ctggcctctc  | cgcacctgtg  | aagacccact  | 4920 |
| ggtcagttgc  | aagtgcgaca  | gtgtgtgcac  | tcagtgcaga  | cactgcagca  | cctcagcacc  | 4980 |
| tccctaccgg  | ggtggaaaga  | gcactttttc  | tttacagaaa  | catgattctt  | agatagcgag  | 5040 |
| cctccccttt  | ttaaaacaat  | tgaagcgata  | tttcatcctt  | tcttgagctt  | ctctccctgc  | 5100 |
| tcactctcaa  | acttgagct   | gtcaggtgag  | cacaggttgt  | aggggtgtga  | gcgagccccg  | 5160 |
| gcgcagtccg  | ggcaccgggt  | tccccacact  | gggcagtgac  | ggggcccagg  | gaggccacca  | 5220 |
| gaggagcggc  | gcctccattc  | tccccacagc  | aagggtggc   | tgtgcaggtg  | cagccccggg  | 5280 |
| gcagagggaa  | aggacaggtc  | tcccagcacc  | tcccggatgg  | caccgggaca  | aggagggctg  | 5340 |



|            |             |            |             |            |             |      |
|------------|-------------|------------|-------------|------------|-------------|------|
| ggctgggggc | actcaccttg  | tctgctgagt | gcatgggcac  | caaccaccca | cactgtcagc  | 5400 |
| tccgcgacca | gctgggggaa  | cgtcacactc | gcccaccaag  | gcacttgctg | aggccacgac  | 5460 |
| gccgcctgac | ggggacacac  | aaaagcccca | gggactttga  | tccacgataa | agagcagagg  | 5520 |
| cgtctgggta | aagtaacaca  | gggcaaggga | ctttagaaaa  | gtaacagcta | gtgaaacctt  | 5580 |
| tccatacact | tcagaaatgt  | tttaacttaa | gacttcagta  | taatgttaac | ttctcctgat  | 5640 |
| gtccttggtg | acatgaatgc  | gtgtgctgta | aatctcacac  | acttccatgg | tcactaaaca  | 5700 |
| gccttcaccc | cgggccaggg  | catcggttac | tcggcccgcct | tcacgtactg | attacttgac  | 5760 |
| ttggcgtttt | ctagatataa  | acatgtacat | gtgtgtcctg  | gctttgtggt | gtaaatgtgt  | 5820 |
| agtgcgtgtg | catgtgcgcg  | cgtgtgtgtg | tgtaaggcta  | ggtcctggca | cgtttcccct  | 5880 |
| gtctcagcgg | accctgtcct  | cacggagata | gcccagaagc  | ccttggacag | cacaggccac  | 5940 |
| acctgagggg | gctgatgggt  | gtgactccac | agagctgtgg  | tcaggggtga | gcatgtgctg  | 6000 |
| cgcagcttgg | agtcacgccc  | ccagaagtgc | tgggtgaggg  | tctgcaggac | ccagctccat  | 6060 |
| tccacagcct | cagttctctg  | cggcacatgc | agcacaggcc  | tgaaggagac | ctggcgcccc  | 6120 |
| agccttgagc | tgcccgtctg  | catcagggca | ctgatgtggg  | agcatcttcc | cctggggatg  | 6180 |
| ttaaggagaa | ggtcctgttg  | ggggtagaga | ttcacgcaga  | aaagagtga  | tgactcgtcc  | 6240 |
| gtgtgcctca | gtttatacca  | cacaattgca | ggtgtccatg  | cctcccacac | atggggacct  | 6300 |
| agtgggtttt | gacagcgtgg  | tgtccagtcc | tagccccctc  | agtgtctgct | gttcacactt  | 6360 |
| aagcaagtga | aggcctgaag  | gtgcccagct | gtgccctcag  | gggaaactta | agtcacccgc  | 6420 |
| cctgtcagca | cttggccctt  | gtcgggcagt | gagagtggag  | ctgccccgcg | agcacccctca | 6480 |
| ggagccatgc | agttcacagc  | agtagctgga | tctccctgag  | gacatttgct | cttgcataac  | 6540 |
| ttaatgattt | gtccacagaa  | acaccgggtt | gtcttctctc  | gcccctctgc | cccgcagtgg  | 6600 |
| gggcactctc | tgtaactcag  | catcacagtg | gggggacagc  | gggaggcctg | gttccagggtg | 6660 |
| accttctcca | cctagatgtt  | caccccactc | agttccagct  | ttaccaacag | ggccccccgc  | 6720 |
| aggaacttgg | ggtcgcagag  | tcccggcctg | tctcaggggc  | ttgttcatgg | aaggagatg   | 6780 |
| agtcagggtg | aaagctcatc  | gtgtagggtt | ctgtgcgggg  | cccttacagg | actggaccgc  | 6840 |
| agccaagatg | cctgcctgtt  | aacctatgcc | agcccccgct  | atttccgcgt | gaagccgcag  | 6900 |
| gcctcggagc | cttgggtctga | aatgcctgtg | gagtaacctc  | ggtccataaa | catgggtgca  | 6960 |
| cagtctgttc | tccccaagta  | cagggcagga | ggaaacaccg  | ccctctgtag | ctgctcgaat  | 7020 |
| ggaaagggct | cttttctctg  | aggtctttat | acattagaaa  | gctcttctgg | gaagaatgtt  | 7080 |
| tgaatccata | gtgtctttct  | gtattcactt | ttaattgctt  | tctaaattag | ctgagaaatt  | 7140 |
| ctgacttgaa | atattgtcag  | gtaagcattt | cttcagtttt  | catgtgtgta | tgtaacagta  | 7200 |
| gctttgcatg | gaaattgtaa  | tcagagtcaa | atacagtatt  | gaatggaatg | tactgccttc  | 7260 |
| tcctcctaaa | tcaataaaca  | tctttcatgg |             |            |             | 7290 |

&lt;210&gt; 2882

&lt;211&gt; 3486

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2882

|            |             |            |            |            |             |      |
|------------|-------------|------------|------------|------------|-------------|------|
| cgcccagcag | cccgtgggca  | ggcgcggcgg | agcgagcggg | gccggcgggc | ggcgccgagg  | 60   |
| gacgccgagg | cctcgggccc  | gggctggccc | gggggtccag | gtctccagtg | ggggctgcag  | 120  |
| actaagcaaa | atgaggcggt  | tcctgaggcc | agggcatgac | cctgtgcggg | agaggctcaa  | 180  |
| gcgggacctg | ttccagttta  | acaagacggt | ggagcatggc | ttcccgcacc | agcccagcgc  | 240  |
| cctcggctac | agcccgtccc  | tgcgcatcct | ggccatcggc | accggttctg | gagccatcaa  | 300  |
| gctctacgga | gccccaggcg  | tggagtcat  | ggggctgcac | caggagaaca | acgctgtgac  | 360  |
| gcagatccac | ctcctgcccg  | gccagtgcc  | gctggtcacc | ctgctggatg | acaacagcct  | 420  |
| gcacctttgg | agcctgaagg  | tcaaggcgcg | ggcatcggag | ctgcaggagg | atgagagctt  | 480  |
| cacactgcgt | ggacccccag  | gggctgcccc | cagtgcacac | cagatcaccg | tggtcctgcc  | 540  |
| acattcctcc | tgcgagctgc  | tctacctggg | caccgagagt | ggcaacgtgt | ttgtggtgca  | 600  |
| gctgccagct | tttcgtgcgc  | tggaggaccg | gaccatcagc | tcggacgcgg | tgctgcagcg  | 660  |
| gttgccagag | gaggcccgc   | accggcgtgt | gttcgagatg | gtggaggcac | tgaggagca   | 720  |
| ccctcgagac | cccaaccaga  | tcctgatcgg | ctacagccga | ggcctcgttg | tcactctggga | 780  |
| cctacagggc | agccgcgtgc  | tctaccactt | cctcagcagc | cagcaactgg | agaacatctg  | 840  |
| gtggcagcgg | gacggccgccc | tgctcgtcag | ctgtcactct | gacggcagct | actgccagtg  | 900  |
| gcccgtgtcc | agcgaagccc  | agcaaccaga | gcccctccgc | agcctcgtgc | cttacgggtcc | 960  |
| ctttccttgc | aaagcgatta  | ccagaatcct | ctggctgacc | actaggcagg | gggttgccct  | 1020 |
| tcaccatctt | ccagggtggc  | atgccacggg | ccagctacgg | ggaccgccac | tgcatctcag  | 1080 |
| tgatccacga | tggccagcag  | acggccttcg | acttcacctc | ccgtgtcatc | ggcttcactg  | 1140 |
| tcctcacaga | ggcagaccct  | gcagccacct | ttgacgacct | ctatgccctg | gtgggtgctgg | 1200 |
| ctgaggagga | gctgggtggtg | attgacctgc | agacagcagg | ctggccaccg | gtccagctgc  | 1260 |



|            |            |            |            |             |             |      |
|------------|------------|------------|------------|-------------|-------------|------|
| cctacctggc | ttctctgcac | tgttccgcc  | tcacctgctc | tcaccacgtc  | tccaacatcc  | 1320 |
| cgctgaagct | gtgggagcgg | atcattgccg | ccggcagccg | gcagaacgca  | cacttctcca  | 1380 |
| ccatggagtg | gccaattgat | ggtggcacca | gcctgacccc | agccccaccc  | cagagggacc  | 1440 |
| tgctgctcac | agggcacgag | gacggcacgg | tgcggttctg | ggatgcctcg  | ggtgtctgcc  | 1500 |
| tgcggctgct | ctacaaactc | agcactgtgc | gcgtgttcc  | caccgacacg  | gaccccaacg  | 1560 |
| agaacctcag | tgcccagggc | gaggacgagt | ggccccact  | ccgcaagggtg | ggctcctttg  | 1620 |
| acccttacag | tgatgacccc | cggctgggca | tccagaagat | cttcctctgc  | aagtacagcg  | 1680 |
| gctacctggc | tgtggcaggc | acggcagggc | aggtgctggg | actggaactg  | aatgacgagg  | 1740 |
| cagcggagca | ggctgtggag | caggtggagg | ccgacctgct | gcaggaccaa  | gagggctacc  | 1800 |
| gctggaagg  | gcacgagcgc | ctggcagccc | gctcagggcc | cgtgcgcttt  | gagcctggct  | 1860 |
| ttcagccctt | cgtgttggtg | cagtgtcagc | ccccggctgt | ggtcacctcc  | ttggccctgc  | 1920 |
| actctgagtg | gcggctcgtg | gccttcggca | ccagccatgg | ctttggcctc  | tttgaccacc  | 1980 |
| agcagcggcg | gcaggtcttt | gttaagtgc  | cactgcaccc | cagtgaccag  | ctggccttgg  | 2040 |
| agggcccact | ctcccgcgtc | aagtcctca  | agaagtcctt | gcgtcagtca  | ttccgccgga  | 2100 |
| tgcgtcggag | ccgggtgtcc | agccggaagc | ggcaccggc  | tggcccccca  | ggagaggcac  | 2160 |
| aggaggggag | tgccaaggct | gagcggccag | gcctccagaa | catggagctg  | gcgcctgtgc  | 2220 |
| agcgcaagat | cgaggctcgc | tcggcagagg | actccttcac | aggcttcgtc  | cggaccctgt  | 2280 |
| actttgctga | cacctacctg | aaggacagct | cccggcactg | cccctcgtcg  | tgggctggca  | 2340 |
| ccaatggggg | caccatctat | gccttctccc | tgctgtgtgc | tcccgcgag   | cggagaatgg  | 2400 |
| atgagcctgt | gcgggcagag | caggccaagg | agatccagct | gatgcaccgg  | gcgcgggtgg  | 2460 |
| tgggcatcct | ggtgctcgac | ggacacagcg | tacccttcc  | cgagccctc   | gaagtggccc  | 2520 |
| atgatctgtc | gaagagccct | gacatgcagg | gaagccacca | gctgctcgtc  | gtatcagagg  | 2580 |
| agcagttcaa | ggtgttcacg | ctgcccgaag | tgagtgccaa | gctgaagttg  | aagctgacgg  | 2640 |
| ccctggaggg | ctcaagagtg | cggcgggtca | gcgtggccca | cttcggcagt  | cgtcgagccg  | 2700 |
| aggactacgg | ggagcaccac | ctggcagtcc | ttaccaacct | gggcgacatc  | caggtggtct  | 2760 |
| cgctgcccct | gctcaagccc | caggtgcgct | acagctgcat | ccgcggggag  | gacgtcagtg  | 2820 |
| gcatcgcttc | ctgcgtcttc | accaaatacg | gccaaggctt | ctacctgatc  | tcaccctcgg  | 2880 |
| agtttgagcg | cttctctctc | tccaccaagg | gggctggtgg | agccccgggtg | tctggtggat  | 2940 |
| tcagcagaaa | ccaagaacca | ccgccttggt | aacggtgcgg | gccccagaa   | ggccccgagc  | 3000 |
| cgagccagga | actcagggac | tcagagtgat | ggcgaggaga | agcagcccg   | cctggtgatg  | 3060 |
| gagcgcgctc | tgctcagtga | tgagagagcg | gcaactgggc | gttcacatcg  | agccgcgctg  | 3120 |
| gggtgcagcc | tcagcaatgg | cggagcagag | tgagtggctg | agcgtccagg  | ctgcgcgatg  | 3180 |
| agcacacact | actactgatg | gcctttcggg | ggtccctgcc | ccaaccggag  | aggccgggtgc | 3240 |
| acagggcccc | gccaggggct | gggggcatcc | cggcttccac | aatgcagctg  | ctctgggcct  | 3300 |
| cgggagagga | gagaccccag | tcccctgggc | tgcccttccc | gggcctcgtc  | tgtctgggtc  | 3360 |
| ctttggtcaa | tgttgacag  | tttttattgc | tcccatccct | ttttgtagtg  | ggctgggttt  | 3420 |
| taagttataa | atgttaactg | cctctgggtg | aaaaagtttt | taataaacac  | ctattacctc  | 3480 |
| ttgaaa     |            |            |            |             |             | 3486 |

&lt;210&gt; 2883

&lt;211&gt; 3486

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2883

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| cgcccagcag | cccgtgggca | ggcgcggcgg | agcgagcggg | gccggcggcg | ggcgccgagg  | 60  |
| gacgccgagg | cctcgggcgg | gggctggccc | ggggttccag | gtctccagtg | ggggctgcag  | 120 |
| actaagcaaa | atgaggcggg | tcctgaggcc | agggcatgac | cctgtgcggg | agaggctcaa  | 180 |
| gcgggacctg | ttccagttta | acaagacggg | ggagcatggc | ttcccgcacc | agcccagcgc  | 240 |
| cctcggctac | agcccgtccc | tgcgcatcct | ggccatcggc | acccgttctg | gagccatcaa  | 300 |
| gctctacgga | gccccaggcg | tggagtccat | ggggctgcac | caggagaaca | acgctgtgac  | 360 |
| gcagatccac | ctcctgcccg | gccagtgcc  | gctggtcacc | ctgctggatg | acaacagcct  | 420 |
| gcaccttttg | agcctgaagg | tcaagggcgg | ggcatcggag | ctgcaggagg | atgagagctt  | 480 |
| cacactgcgt | ggacccccag | gggctgcccc | cagtgccaca | cagatcaccc | tggtcctgcc  | 540 |
| acattcctcc | tgcgagctgc | tctacctggg | caccgagagt | ggcaacgtgt | ttgtggtgca  | 600 |
| gctgccagct | tttcgtgcgc | tggaggaccg | gaccatcagc | tcggacgcgg | tgctgcagcg  | 660 |
| gttgccagag | gagggccgcc | accggcgtgt | gttcgagatg | gtggaggcac | tgaggagca   | 720 |
| ccctcgagac | cccaaccaga | tcctgatcgg | ctacagccga | ggcctcgctt | tcactctggga | 780 |
| cctacagggc | agccgcgtgc | tctaccactt | cctcagcagc | cagcaactgg | agaacatctg  | 840 |
| gtggcagcgg | gacggccgcc | tgctcgtcag | ctgtcactct | gacggcagct | actgccagtg  | 900 |
| gcccgtgtcc | agcgaagccc | agcaaccaga | gcccctccgc | agcctcgtgc | cttacgggtcc | 960 |

|             |             |             |            |             |             |      |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| ctttccttgc  | aaagcgatta  | ccagaatcct  | ctggctgacc | actaggcagg  | gggttgccct  | 1020 |
| tcaccatctt  | ccaggggtggc | atgccacggg  | ccagctacgg | ggaccgccac  | tgcattctcag | 1080 |
| tgatccacga  | tggccagcag  | acggccttcg  | acttcacctc | ccgtgtcacc  | ggcttcactg  | 1140 |
| tcctcacaga  | ggcagaccct  | gcagccacct  | ttgacgaccc | ctatgccctg  | gtggtgctgg  | 1200 |
| ctgaggagga  | gctgggtggg  | attgacctgc  | agacagcagg | ctggccaccg  | gtccagctgc  | 1260 |
| cctacctggc  | ttctctgcac  | tgttccgcca  | tcacctgctc | tcaccacgtc  | tccaacatcc  | 1320 |
| cgctgaagct  | gtgggagcgg  | atcattgccg  | ccggcagccg | gcagaacgca  | cacttctcca  | 1380 |
| ccatggagtg  | gccaattgat  | ggtggcacca  | gcctgacccc | agccccaccc  | cagagggacc  | 1440 |
| tgctgctcac  | agggcacgag  | gacggcacgg  | tgcggttctg | ggatgcctcg  | ggtgtctgcc  | 1500 |
| tgcggctgct  | ctacaaactc  | agcactgtgc  | gcgtgttctt | caccgacacg  | gaccccaacg  | 1560 |
| agaacctcag  | tgcccagggc  | gaggacgagt  | ggccccact  | ccgcaagggtg | ggctcctttg  | 1620 |
| acccttacag  | tgatgacccc  | cggtggggca  | tccagaagat | cttcctctgc  | aagtacagcg  | 1680 |
| gctacctggc  | tgtggcaggg  | acggcagggc  | aggtgctggg | actggaactg  | aatgacgagg  | 1740 |
| cagcggagca  | ggctgtggag  | caggtggagg  | ccgacctgct | gcaggacca   | gagggctacc  | 1800 |
| gctggaagg   | gcacgagcgc  | ctggcagccc  | gctcagggcc | cgtgcgcttt  | gagcctggct  | 1860 |
| ttcagccctt  | cgtgttggtg  | cagtgtcagc  | ccccggctgt | ggtcacctcc  | ttggccctgc  | 1920 |
| actctgagt   | gcggctcgtg  | gccttcggca  | ccagccatgg | ctttggcctc  | tttgaccacc  | 1980 |
| agcagcggcg  | gcaggtcttt  | gttaagtgc   | cactgcaccc | cagtgaccag  | ctggccttgg  | 2040 |
| agggccctact | ctcccgctgc  | aagtccctca  | agaagtcctt | gcgtcagtca  | ttccgcggga  | 2100 |
| tgcgtcggag  | ccgggtgtcc  | agccggaagc  | ggcaccggc  | tggcccccca  | ggagaggcac  | 2160 |
| aggaggggag  | tgccaaggct  | gagcggccag  | gcctccagaa | catggagctg  | gcgcctgtgc  | 2220 |
| agcgcaagat  | cgaggctcgc  | tccgcagagg  | actccttcac | aggcttcgtc  | cggacctgt   | 2280 |
| actttgctga  | cacctacctg  | aaggacagct  | ccgggcactg | cccctcgtcg  | tgggctggca  | 2340 |
| ccaatggggg  | caccatctat  | gccttctccc  | tgcgtgtgcc | tcccgcggag  | cggagaatgg  | 2400 |
| atgagcctgt  | gcgggcagag  | caggccaagg  | agatccagct | gatgcaccgg  | gcgcgggtgg  | 2460 |
| tgggcatcct  | ggtgctcgac  | ggacacagcg  | tacccttcc  | cgagccctc   | gaagtggccc  | 2520 |
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| agcagttcaa  | ggtgttcacg  | ctgcccaagg  | tgagtgccaa | gctgaagtgt  | aagctgacgg  | 2640 |
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| taagttataa  | atgttaactg  | cctctgggtg  | aaaaagtttt | taataaacac  | ctattacctc  | 3480 |
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&lt;210&gt; 2884

&lt;211&gt; 5254

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2884

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| atcgtgagct  | ggggaatcgg | gtgtgcggaa  | gcccggcgtc  | caggggtcta | tgcccagatc | 120 |
| accaggctac  | gtgactggat | cctggaggcc  | accaccaaag  | ccagcatgcc | tctggcccc  | 180 |
| accatggctc  | ctgcccctgc | cgccccagc   | acagcctggc  | ccaccagtcc | tgagagccct | 240 |
| gtggtcagca  | ccccaccaa  | atcgatgcag  | gccctcagta  | ccgtgcctct | tgactgggtc | 300 |
| accgttcccta | agctacaaga | atgtggggcc  | aggcctgcaa  | tggagaagcc | cacccgggtc | 360 |
| gtgggcgggt  | tcggagctgc | ctccggggag  | gtgccctggc  | aggtcagcct | gaagggaagg | 420 |
| tcccggcact  | tctgcggagc | aactgtgggtg | ggggaccgct  | ggctgctgtc | tgccgcccac | 480 |
| tgcttcaacc  | acacgaagg  | ggagcaggtt  | cgggcccacc  | tgggcaactg | gtccctcctg | 540 |
| ggcctggggc  | ggagcccgg  | gaagatcggg  | ctgcggcggg  | tagtgctgca | ccccctctac | 600 |
| aaccctggca  | tcctggactt | cgacctggct  | gtccctggagc | tggccagccc | cctggccttc | 660 |

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| aagtgcata   | tctccggatg  | gggaaatacg  | caggaaggaa | atgccaccaa | gcccagagctc | 780  |
| ctgcagaagg  | cgtccgtggg  | catcatagac  | cagaaaacct | gtagtgtgct | ctacaacttc  | 840  |
| tccctcacag  | accgcatgat  | ctgcgcaggc  | ttcctggaag | gcaaagtcca | ctcctgccag  | 900  |
| gtgagtggca  | tcaaggcgct  | gtacgagtcg  | gagctggccg | atgcccgagg | agtccctggat | 960  |
| gagacggctc  | gagagcgtgc  | ccggctgcag  | atagagattg | ggaagctgag | ggcagagttg  | 1020 |
| gacgaggtca  | acaagagcgc  | caagaagagg  | gagggcgagc | ttacggtggc | ccagggccgt  | 1080 |
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| gacggtcatg  | cagtggccaa  | aaagcagctg  | gagaaggaga | cgctgatgcg | tgtggacctg  | 1260 |
| gagaaccgct  | gccagagcct  | gcaggaggag  | ctggacttcc | ggaagagtgt | gttcgaggag  | 1320 |
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| aacgcctacc  | ggaagctcct  | ggagggcgag  | gaggagaggc | tgaagctgtc | ccccagccca  | 1860 |
| tccctcgcgcg | tcaccgtctc  | acgagccacc  | tcgagcagca | gcggcagctt | gtccgccacc  | 1920 |
| gggcgcctgg  | gccgcagtaa  | gcggaagcgg  | ctggaggtgg | aggagccctt | gggcagcggc  | 1980 |
| ccaagcgctc  | tgggcacggg  | cacgggtggc  | agcgggtggc | tccacctggc | ccagcaggcc  | 2040 |
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| gtcacggtgt  | gggcagctgg  | tgccgggggtg | gcccacagcc | ccccctcgac | gctggtgtgg  | 2280 |
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| atacacatgc  | gtctatccat  | actgtgcttt  | tatctgtgat | tttctcgtg  | aaaccatgtt  | 3480 |
| tctcagacag  | gccaaggcca  | cctgactcct  | atcacgacgc | acccaagccc | ctcagtccag  | 3540 |
| cttcccaatg  | cctggcaccc  | cccttcggca  | atagctcacc | gtttacaccc | tcctcatag   | 3600 |
| atacacagaa  | gttatthttt  | taatggatat  | ttatthtttt | acattgggtc | gtacacaggt  | 3660 |
| caggagctca  | cgccagggcc  | ttgaggacag  | gctgaccctc | ctccccgggg | tggcgtgggg  | 3720 |
| ctggggcacc  | ctccgacggc  | agagcctcct  | tcagaaagtg | cagctcaagt | cttaaagaca  | 3780 |
| ccaaaactga  | gccatgggca  | cgcgcgctct  | ccgggccatg | gcgttcaact | cagggcgggg  | 3840 |
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| ggcagcctgt  | gggtaattgg | aggttcattg | agaattgagt  | ctttggaaac | actaagaaaa | 4620 |
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| tctttttttt  | ttccaatgat | ttgtaatata | cattttatga  | ctggaaactt | ttttgtacaa | 5220 |
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&lt;210&gt; 2885

&lt;211&gt; 2123

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (2123)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2885

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| agagtagatg  | atgaggccca  | tgccccctac | ccccacgccc  | cgccccctaca | acctaagtca  | 2040 |
| taaactcctc  | tcctccctcc  | tttatcagat | tggttctatt  | tttgggttctg | gttttagagac | 2100 |
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<212> DNA  
<213> Homo sapiens

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| cagtgaataat | cgcaaaaagg  | aaaagaaaag | gaagcaatga  | acaatagtag  | aatctcactt | 780  |
| cagcatttgt  | ataatttttt  | ataagaaaaa | cattcatttt  | tattatggga  | tctaaaacca | 840  |
| tgatcgtgtc  | tgatactgta  | agccttttag | cgtactcaaa  | tgggtcaaca  | ttcaatatgg | 900  |
| acagccagct  | agctcacaag  | aaatgaaatg | taatgcacaa  | atatgtttga  | ctggtaaaat | 960  |
| cccagaggct  | tggtaataaa  | gtgcagcaaa | ctttccttat  | attgaataag  | aactccagta | 1020 |
| acctctggat  | attttttggt  | aaaattaaag | aaaagggtact | gcagtcaaga  | gacaggtaat | 1080 |
| ctttaaactt  | caaaaagactg | gctgccaggg | accacagtga  | aaaatttagac | ctggagccaa | 1140 |
| tgaaaaaacac | tagcttgga   | ggaatgggtt | tttccaaaaa  | tgcaaaatta  | gcatttacag | 1200 |
| atgcttagga  | tactatgatt  | tgacaggctt | acagtgataa  | aacaacaaag  | atgaacagtt | 1260 |
| acaatattta  | tacgtgtagt  | gtgtaaagaa | cacaggtttt  | ttaattggca  | gcaagaaatt | 1320 |
| ctatgacagc  | ttctgagaca  | agtaatccta | tgccctatat  | ccaccccatg  | ccaatgacga | 1380 |



|            |            |             |            |            |            |      |
|------------|------------|-------------|------------|------------|------------|------|
| ccagtcaaaa | tggtaacaca | gagtaaaaag  | tgatctactg | tatgtgagtc | agaaagtact | 1440 |
| tgaaaagtga | caaaactgta | tgttattaaa  | tgccaaaaca | tatttagagg | ctttatttaa | 1500 |
| aaatctctca | ctgttcatta | tcaaagttac  | aagattgcat | accaatagac | agactgtaaa | 1560 |
| cataggaaat | tttcgttaag | gaaagatggg  | tttactgtaa | ttcaatcttt | tacaaaaaat | 1620 |
| tacttgcaag | ttattgataa | cagaatttct  | cttttacttt | cttaattctc | ttgaaaatta | 1680 |
| aaccaatggt | tccactttca | tgagctaaag  | ttcaaccatg | gtcaccttag | gaaatacccc | 1740 |
| tgtttatttg | ttaatcagaa | atacaaatcg  | agtggcacat | acttccattt | tcttcttagg | 1800 |
| ccaaagggtt | cagcttcatt | atattttaca  | gaagaccttc | agtgggccgg | taagtcttct | 1860 |
| atgtcacagc | tgagggttaa | tgatggcagt  | ggaggaaagc | agagggtgat | caaagtaaga | 1920 |
| ccagcccagt | tgccttatct | gacatggaat  | ctttttcctg | tctggcttgc | agcagcgaag | 1980 |
| tgtttctggg | cagggtgcct | ccaccaaacc  | tgattgaagc | aaaaggggtg | catgctctga | 2040 |
| taaatcccat | ttaaggatga | ttctgttcag  | gcaaatagtt | gatccttcaa | tctgttggct | 2100 |
| gtgggatgat | actaatatga | agaaaattat  | cggggtagct | cagatgttca | ctcagccact | 2160 |
| gcagagggtg | ttccaacatt | ggctcaattc  | catgaatcat | cacttgatct | tttttttccc | 2220 |
| catcttcagg | atcaatagca | gaaggacaaa  | cttctttgag | gagatctcct | agtgtgtgca | 2280 |
| actgtccatc | tgcagccaca | ggacgaaaca  | gcttctgaat | gaaaggtctt | tcagtctgtg | 2340 |
| tctgatata  | tctaaagggg | atataacgaa  | atccattttc | ttctgcagga | tattccatga | 2400 |
| gtttccgatt | gatggcccaa | aactgggtcaa | atctgtcatt | ttgcaatccc | atccagagtt | 2460 |
| gcttgtgate | ttttttctgc | atttcattga  | ttacttgact | tttatgtttt | aaagcatcag | 2520 |
| cttctttcat | acatgacata | aaatgagctt  | caattgcatc | cttagatgga | cagtgcagaa | 2580 |
| ggtctttttc | tggaaaactc | ttaaaatgta  | ctgtgatggt | ccaaggaaga | gctgaacttg | 2640 |
| atgcaagaag | atcaaatagc | aaaccaattg  | gataatgcca | tttcagtggg | gtgccttcat | 2700 |
| attcaaacca | tatctcacta | atgtcttctt  | gtctcataac | cttctgaaag | tgctttttca | 2760 |
| ctttgtcagt | taccaacgtc | aaataactta  | ctcttggaac | aagcaaatag | tatgggtctg | 2820 |
| cttccctttc | agttatctca | tctgatata   | gcgtgaaaca | agttggaatt | cgtccaaacc | 2880 |
| acacatctcg | aagcacatct | ttgtcatctg  | tcattcttcc | aggagttaaa | gcagtacata | 2940 |
| caggctaaat | tcttatttca | accaaagcca  | aacctactcc | aagctatggc | tcctccttcc | 3000 |
| ggctccccgc | actgggtggg | acgcccagat  | tccgcgctcc | gggtggggcg | cggggcaagc | 3060 |
| tgcccgctcg | acacactgtc | ctgcggggac  | gcggtagcag | gactccagga | agcccgcgca | 3120 |
| gccgcaaaaa | gcaccggcgc | ggaggtcgga  | gctgaacctc | gctgcacttc | cgcctcttgg | 3180 |
| tatccagcga | atacaaccgg | caacgctgcg  | gagccctggc | acgaaa     |            | 3226 |

&lt;210&gt; 2890

&lt;211&gt; 1086

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2890

|            |            |             |            |             |             |      |
|------------|------------|-------------|------------|-------------|-------------|------|
| cgtcgacttt | tttttttttt | aattttttaa  | tggttaactt | tatttgatgt  | ctcgccaaat  | 60   |
| aacatatata | tgctgtaatg | ttcattgaaa  | ttaaagattc | catgagacaa  | gtttaaatta  | 120  |
| aatgttcaca | ctaaatat   | tgtaatgaca  | ttttaatctt | agaatactat  | atttttgctt  | 180  |
| gttgaaaaca | tagttgagta | aaattatctc  | agtgtcagac | attttttagta | gcacgtacag  | 240  |
| tgccttagct | ttcagaacag | aaagtctcct  | ttcaccctac | tctgctacta  | ttattctagt  | 300  |
| atacatagtc | ttaagaacat | acagtatcta  | ttgttcagtg | tgttacaatt  | tttctcttct  | 360  |
| attagtatct | aataactaaa | ttagagtatt  | caagcttaga | gatgggtttt  | tcattagaaa  | 420  |
| agtttgtgcg | gtcaatgcga | gaactagggc  | ttccaacctt | gctcagccag  | gacttcatgg  | 480  |
| aattgacttt | gtcttctggc | ccctgcactt  | ggcctgtcac | gggtgccttg  | ctgggtattct | 540  |
| tcacccagcc | aaccactcct | attttccctag | cttcatcttc | tgtatacatt  | ctgaagcaaa  | 600  |
| caccctgcac | tcttccgaac | acctcgtagt  | ccacggattt | gagtgactgg  | gcggtagaca  | 660  |
| tggcggcggc | gagccctctg | ttgaggagcc  | ggagaggggc | tcggggcgca  | gcgactgcgg  | 720  |
| cggctgcgag | agggagggga | cacatgggac  | tgcttggcgc | accccgcgcc  | tgtcaccggt  | 780  |
| cccggacgct | agcgcgcggg | ggtcacgcgt  | cggagagcgg | aaatgagact  | gcggggcctg  | 840  |
| ggagcgaggg | cagccgggga | cgccaggagg  | gaagaggcgg | ctgggccccca | ggcatcctag  | 900  |
| gcctctcttc | ccggactggg | gaggatgctg  | tctccacagc | gctccctacc  | atttaattga  | 960  |
| tcaaggtact | ctgttctcaa | agttagtaaa  | taaaagccgg | atgctgtgcc  | caaaaaaaga  | 1020 |
| gtggcttccc | ccagctttat | taaagtgtaa  | ttgacaaata | aaagttgggt  | atatttgtgg  | 1080 |
| tgtaaa     |            |             |            |             |             | 1086 |

&lt;210&gt; 2891

<211> 1230  
<212> DNA  
<213> Homo sapiens

<400> 2891  
caaaactttt cttttctttt tttggcatgc aggcctctttt tactgttctg ggcagtgttt 60  
tgcaatgtgt gaccctcccg cactgttggg gaacatacag acctcctata tgggcacca 120  
agcccaggcc agtgtgagaa ccttggcggg ggggtgggga ggatgagaag gggaggcccc 180  
tagcctgact cagaggtgaa gactgctagg ccctgctgtc cttgggggtac gactgtcagg 240  
gcctctacct ccccgcccc gcgggtgggc ttctggaagt ggatctccag gacgtcatgc 300  
agctccgggc catccaagat atcaggaatg ttgagacca gtaccgagcg gggaaactggc 360  
tgcgacctga tctcagcctt ctggatctcc ccattcacat acggagagac tctcagaggg 420  
acttgctgcc caccagtgg cactgtgaac tggccgattt ggcacagacg ctgagccact 480  
ccatccctag caaaccccag catgacactc cctggcagta gctcccgaac gtccacatcg 540  
ccacctccgt tectagtctt gccaaagaag atctctagct tgtccagcag ctccctctca 600  
ctcagcctga ggctggcagg aaatccagt accaacaccc tccggccact caactggctg 660  
gacaccatca cctggatggg ggtgacctg ggcagctcca agggctggac ctgcaccgc 720  
agccggcact cctccatgtt gatcgtgtgc tctttttgtt gcagcacctg ctcagccact 780  
ttgggggtcat caaaggtgat cagagcagag cccgcaagca gagggcagt gatccgcaa 840  
ttggaaacta aagacttagg cacttccggg tcttgctggg tgtgtcctcg gaataccagg 900  
gggatcttgg gcaactgaaa tgggacctg tctttggggg agtccccgag ctctttctc 960  
agctgctgca ggtcccacag cctcatcttg agtctggcct gctcctcctg aagggcgtgg 1020  
agggcggcat ccagtggggc tgacatgggt ctgggtctg tttggcaaga gctgaggctt 1080  
cagagctggg cacagtggca gaattcacag caactgaact cttgtttgta cccccaaag 1140  
ggctgtggtc tctctcagcc ccagcaagac ccgaaataca cctcaggagg ctctgctcgc 1200  
aggtgtttg cttccacttt catttccgtg 1230

<210> 2892  
<211> 460  
<212> DNA  
<213> Homo sapiens

<400> 2892  
aattcaaac acacttgata actgaaggat gatgaagtgt ccacaggctt tactagctat 60  
cttttggctt ctactgagct gggtagcag tgaagacaag gtggtacaaa gccctctatc 120  
tctggttgtc cacgaggag acaccgtaac tctcaattgc agttatgaag tgactaactt 180  
tcgaagccta ctatggtaca agcaggaaaa gaaagctccc acatttctat ttatgctaac 240  
ttcaagtggg attgaaaaga agtcaggaag actaagtagc atattagata agaaagaact 300  
ttccagcatc ctgaacatca cagccacca gaccggagac tgggcatct acctctgtgc 360  
tgtggaggca cagtgtccc tagtcacctg cagcctgtac tcaaattcta cagctgaggc 420  
tctgcaactg taagatgggg aacttgctac attgagcaag 460

<210> 2893  
<211> 2192  
<212> DNA  
<213> Homo sapiens

<400> 2893  
cgaaggcgtt cagactctta gctgaacgcg gagctgcggc ggctatgctg tggagcggct 60  
gccggcgttt cggggcgcgc ctccgctgcc tgcccgcgcg tctccgggtc ctgctccaga 120  
ccggccaccg gagcttgacc tctgcatcg acccttccat gggacttaat gaagagcaga 180  
aagaatttca aaaagtggcc tttgactttg ctgcccagaga gatggctcca aatatggcag 240  
agtgggacca gaaggagctg ttcccagtgg atgtgatgcg gaaggcagcc cagctaggct 300  
tcggaggggt ctacatacaa acagatgtgg gcgggtctgg gctgtcacgt cttgatacct 360  
ctgtcatttt tgaagccttg gctacaggct gcaccagcac cacagcctat ataagcatcc 420  
acaacatgtg tgcttgatg attgatagct tcggaaatga ggaacagagg cacaattttt 480  
gccacccgct ctgtaccatg gagaagtgtt cttcctactg cctcactgaa ccaggaagtg 540

|             |             |             |             |            |             |      |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| ggagtgatgc  | tgcctctctt  | ctgacctccg  | ctaagaaaca  | gggagatcat | tacatcctca  | 600  |
| atggctccaa  | ggccttcac   | agtgggtgctg | gtgagtcaga  | catctatgtg | gtcatgtgcc  | 660  |
| gaacaggagg  | accaggcccc  | aagggcatct  | catgcatagt  | tgttgagaag | gggaccctg   | 720  |
| gcctcagctt  | tggcaagaag  | gagaaaaagg  | tgggggtggaa | ctcccagcca | acacgagctg  | 780  |
| tgatcttcga  | agactgtgct  | gtccctgtgg  | ccaacagaat  | tgggagcgag | gggcagggct  | 840  |
| tcctcattgc  | cgtgagagga  | ctgaacggag  | ggaggatcaa  | tattgcttcc | tgctccctgg  | 900  |
| gggctgcccc  | cgctctgtc   | atcctcacc   | gagaccacct  | caatgtccgg | aagcagtttg  | 960  |
| gagagcctct  | ggccagtaac  | cagtacttgc  | aattcacact  | ggctgatatg | gcaacaaggc  | 1020 |
| tgggtggcgc  | gcggctgatg  | gtccgcaatg  | cagcagtggc  | tctgcaggag | gagaggaagg  | 1080 |
| atgcagtggc  | cttgtgctcc  | atggccaage  | tctttgctac  | agatgaatgc | tttgccatct  | 1140 |
| gcaaccaggc  | cttgcagatg  | cacgggggct  | acggctacct  | gaaggattac | gctgttcagc  | 1200 |
| agtacgtgcg  | ggactccagg  | gtccaccaga  | ttctagaagg  | tagcaatgaa | gtgatgagga  | 1260 |
| tactgatctc  | tagaagcctg  | cttcaggagt  | agaaccaca   | cttggttctg | cctgggtgttc | 1320 |
| agtgcgactg  | cagtcagtgt  | tgagtgggtg  | catgtggggc  | gctctattcc | aaaggaatca  | 1380 |
| tggattagac  | ccaagggctg  | agctcctcta  | gggcaggacc  | tgcaccctgt | gtgttggcac  | 1440 |
| cagcatcggg  | tcttggactg  | gggcagaatc  | cccagtggaa  | ccggaagagc | tggactgatg  | 1500 |
| agaaacatca  | gaagaacaca  | tactaccttg  | ttttccta    | gccagaagg  | tgaccagtga  | 1560 |
| agattcaccc  | tcaaaccatg  | aaagtccctt  | cttggatcca  | ctttatcttg | attagtctgc  | 1620 |
| atcttactag  | ttcactggat  | ccctcctcta  | ggggcctggg  | gactttcact | gatgctcttc  | 1680 |
| ctgattctag  | agcaaagggtg | tgggaagggg  | aaatggagga  | atgccctcct | gtctgtgtcg  | 1740 |
| ttctctgtgc  | cacagctaca  | gatgcagaag  | gtttctctgg  | atagcacacc | tctgaatgta  | 1800 |
| aatcatgata  | aatggatat   | ttggaaactt  | actcctaagc  | tgtgatttag | ggtgtatttc  | 1860 |
| tacttctgga  | ctgcctcaat  | atcaagggct  | gagacttttg  | aattttgaat | attcgttggg  | 1920 |
| tttcatgtta  | agaagcctgt  | ggtctaggag  | tgctattcag  | tgtttctttt | cctgataaac  | 1980 |
| actttgaata  | ttttttttgt  | gtttttgttt  | ccttttctga  | agctgttcct | ccttttaaat  | 2040 |
| atcttttaate | acattgataa  | aatctatcct  | tcaccacctc  | tggttctact | atagttgatt  | 2100 |
| tttatttttaa | atgttttaatt | gtatttgatt  | aaacacttaa  | ctggattttg | gaataataaa  | 2160 |
| actctcgtcc  | aatttggtct  | ttaaaaaaa   | aa          |            |             | 2192 |

&lt;210&gt; 2894

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2894

|             |             |             |            |            |            |      |
|-------------|-------------|-------------|------------|------------|------------|------|
| tgggcctgac  | ttcccgggtc  | gacgattttc  | tcttcgggct | gtcaagctcc | cgcccggtg  | 60   |
| gactcaagcg  | gaggcgcgcg  | gaacagtcgc  | cgaggcgatt | cccggccagg | ctcctgtaac | 120  |
| cgccaggcag  | tggccccg    | atgtcccagc  | cccggacccc | agagcaggca | ctggatacac | 180  |
| cgggggactg  | ccccccaggc  | aggagagacg  | aggacgctgg | ggaggggatc | cagtgtctcc | 240  |
| aacgcatgct  | cagcttcagt  | gacgccttgc  | tgtccatcat | cgccaccgtc | atgatcctgc | 300  |
| ctgtgaacca  | cacggagatc  | tccccagaac  | agcagttcga | cagaagtgtg | cagaggcttc | 360  |
| tggcaacacg  | gattgccgtc  | tacctgatga  | cctttctcat | cgtgacagtg | gcctgggcag | 420  |
| cacacacaag  | gttgttccaa  | gttgttgga   | aaacagacga | cacacttgcc | ctgctcaacc | 480  |
| tggcctgcat  | gatgaccatc  | accttcctgc  | cttacacgtt | ttcgtaaatg | gtgaccttcc | 540  |
| ctgatgtgcc  | tctgggcatc  | ttcttgttct  | gtgtgtgtgt | gatcgccatc | ggggtcgtgc | 600  |
| aggcactgat  | tgtgggggtac | gcattccact  | tcccgcacct | gctgagccc  | cagatccagc | 660  |
| gctctgcca   | cagggtctctg | taccgacgac  | acgtcctggg | catcgctctc | caaggcccgg | 720  |
| ccctgtgctt  | tgcagcgggc  | atcttctctc  | tcttcttctg | ccccttgtct | tacctgctga | 780  |
| tgggtgactgt | catcctcctc  | ccctatgtca  | gcaaggtcac | cggctgggtg | agagacaggc | 840  |
| tcctgggcca  | caggagagccc | tgggtcacc   | cagtggaggt | cttctcgttt | gacctccacg | 900  |
| agccactcag  | caaggagcgc  | gtggaagcct  | tcagcgacgg | agtctacgcc | atcgtggcca | 960  |
| cgcttctcat  | cctggacatc  | tgggtgaggac | cccgcgtcac | ctgccccagc | tatt       | 1014 |

&lt;210&gt; 2895

&lt;211&gt; 699

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



&lt;400&gt; 2895

|            |            |            |            |             |            |     |
|------------|------------|------------|------------|-------------|------------|-----|
| ggcttactca | ctatagggct | cgagcggccg | cccgggcagg | tgcagaacag  | aacactttct | 60  |
| catgtccagg | gtcagattac | aagagcactc | aagactttac | tgacgaaaac  | tcaggaaatc | 120 |
| ctctatcaca | aagaggtttg | gcaactaaac | taagacatta | aaaggaaaat  | accagatgcc | 180 |
| actctgcagg | ctgcaataac | tactacttac | tggatacatt | caaaccctcc  | agaatcaaca | 240 |
| gttatcaggt | aaccaacaag | aaatgcaagc | cgtcgacaat | ctcacctctg  | cgcttgggaa | 300 |
| caccagtctg | tgcaccagag | actacaaaat | caccaggtc  | ctcttcccac  | tgtcttacac | 360 |
| tgtcctgttt | tttggtggac | ttatcacaaa | tggcctggcg | atgaggattt  | tctttcaaat | 420 |
| ccggagtaaa | tcaaacttta | ttatttttct | taagaacaca | gtcattttctg | atcttctcat | 480 |
| gattctgact | tttccattca | aaattcttag | tgatgccaaa | ctgggaacag  | gaccactgag | 540 |
| aacttttgtg | tgtcaagtta | cctccgtcat | attttatctt | acaatgtata  | tcagtatttc | 600 |
| attcctggga | ctgataacta | tcgatcgcta | ccagaagacc | accaggccat  | ttaaaacatc | 660 |
| caacccccaa | aatctcttgg | gggctaagat | tctcaagcc  |             |            | 699 |

&lt;210&gt; 2896

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2896

|            |             |             |             |             |             |     |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| ggcacgagag | aactgtgttc  | actaacaacc  | tgaaacagac  | accatgggtgc | acctgactcc  | 60  |
| tgaggagaag | tctgccgtta  | ctgccctgtg  | gggcaagggtg | aacgtggatg  | aagatgccgg  | 120 |
| tgacgatctg | tgccagatac  | tgggtggacag | acctaggctc  | cgtatatgat  | tttaacaaca  | 180 |
| ggtaatctct | agggagaaatg | attgtaggga  | ggactatcat  | tttcttcttt  | tttgggcatac | 240 |
| tggatttttt | cttacaatga  | acatattact  | tgagcagatt  | tttttaaatgc | aggtgagaaa  | 300 |
| agcgatacta | ggaagaatgg  | attcaaaggt  | tgtgaccatg  | taaccatgca  | tttgtaaaaa  | 360 |
| gccgtccag  |             |             |             |             |             | 369 |

&lt;210&gt; 2897

&lt;211&gt; 1100

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2897

|            |            |            |             |             |             |      |
|------------|------------|------------|-------------|-------------|-------------|------|
| ggccctgccc | tgaaggctgg | tcaacttgca | aggtaaactc  | ccctctttga  | cttctggcca  | 60   |
| gggttttgtc | tgagctggct | gcagccgctc | tcagcctcgc  | tccgggcacg  | tcgggcagcc  | 120  |
| tccggccctc | ctgcctgcag | gatcatgccc | accaccgtgg  | acgatgtcct  | ggagcatgga  | 180  |
| ggggagtttc | actttttcca | gaagcaaagt | tttttcctct  | tggctctgct  | ctcggctacc  | 240  |
| ttcgcgccc  | tctacgtggg | catcgtcttc | ctgggcttca  | cccctgacca  | ccgctgccgg  | 300  |
| agccccggag | tggccgagct | gagtctgcgc | tgcggctgga  | gtcctgcaga  | ggaactgaac  | 360  |
| tacacggtgc | cgggcccagg | acctgcgggc | gaagcctccc  | caagacagtg  | taggcgctac  | 420  |
| gaggtggact | ggaaccagag | cacctttgac | tgcgtggacc  | ccctggccag  | cctggacacc  | 480  |
| aacaggagcc | gcctgccact | gggcccctgc | cgggacggct  | gggtgtacga  | gacgcctggc  | 540  |
| tcgtccatcg | tcaccgagtt | taacctggta | tgtgccaaact | cctggatggt  | ggacctattc  | 600  |
| cagtcacag  | tgaatgtagg | attctttatt | ggctctatga  | gtatcggcta  | catagcagac  | 660  |
| aggtttggcc | gtaagctctg | cctcctaact | acagtcctca  | taaatgctgc  | agctggagtt  | 720  |
| ctcatggcca | tttccccaac | ctatacgtgg | atgttaattt  | ttcgcttaat  | ccaaggactg  | 780  |
| gtcagcaaag | caggctgggt | aataggctac | atcctgatta  | cagaatttgt  | tgggcggaga  | 840  |
| tatcggagaa | cagtggggat | tttttacc   | gttgccata   | cagttgggct  | cctgggtgcta | 900  |
| gctgggggtg | cttacgcact | tctcactgg  | aggtgggttg  | agttcacagt  | tgtctgccc   | 960  |
| aacttcttct | tcttgctcta | ttactgggtg | atacctgagt  | ctcccagggtg | gctgatctcc  | 1020 |
| cagaataaga | atgctgaagc | catgagaatc | attaagcaca  | tgcgaaagaa  | aaatggaaaa  | 1080 |
| tctctaccog | cctcccttca |            |             |             |             | 1100 |

&lt;210&gt; 2898

&lt;211&gt; 1620

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2898

|            |             |            |             |             |            |      |
|------------|-------------|------------|-------------|-------------|------------|------|
| gcgcctcgcc | gggtctccgc  | ttatcacacc | tcaggtgcgg  | tgggcttcgg  | gtggggggcc | 60   |
| tgcagctagc | tgatggcaag  | ggaggaatag | caggggtggg  | gattgtgggtg | tgcgagaggt | 120  |
| cccgcggacg | gggggctcgg  | gggtctcttc | agacgagatt  | cccttcaggc  | ttgggcccgg | 180  |
| tcccttcgca | cggagatccc  | aatgaacgcg | ggcccttgga  | ggccggtggt  | tggggcttct | 240  |
| ccgcgtcggg | gatggggccg  | gtaccctagc | ccgtttccag  | cgcctcagtc  | gggtccccat | 300  |
| gccctcagag | gtggcccggg  | gcaagcgcgc | cgccctcttc  | ttcgctgcgg  | tggccatcgt | 360  |
| gctggggcta | ccgctctggt  | ggaagaccac | ggagacctac  | cgggccatcg  | ttgccttact | 420  |
| cccagatcag | tggcctgaat  | gcccttcage | tccgcctcat  | ggtgcctgtc  | actgtcgtgt | 480  |
| ttacgcggga | gtcagtgcgc  | ctggacgacc | aggagaagct  | gcccttcacc  | cggtgtgcat | 540  |
| gaaagagaga | ttcctcctga  | aatacaaaat | gaaaatccaa  | atgccgtttc  | ccagaaggcc | 600  |
| tatcggaggg | ctttggaccc  | atgaggaagg | aggccctgtc  | atcgggcagt  | gtgcaagagg | 660  |
| cagaagccat | gttagatgag  | cctcaggaac | aagcggaggg  | ctccctgact  | gtgtacgtga | 720  |
| tatctgaaca | ctcctcactt  | cttccccagg | acatgatgag  | ctacattggg  | cccaagagga | 780  |
| cagcagtggg | gcgggggata  | atgcaccggg | aggcctttaa  | catcattggc  | cgccgcatag | 840  |
| tccaggtggc | ccaggccatg  | tctttgactg | aggatgtgct  | tgctgctgct  | ctggctgacc | 900  |
| accttcacga | ggacaagtgg  | agcgttgaga | agaggcggcc  | tctcaagtcc  | agcttgggct | 960  |
| atgagatcac | cttcagttta  | ctcaaccacg | accccaagtc  | ccatgatgtc  | tactgggaca | 1020 |
| ttgagggggc | tgtccggcgc  | tatgtgcaac | ctttcctgaa  | tgccctcggg  | gccgctggca | 1080 |
| acttctctgt | ggactctcag  | attctttact | atgcaatgtt  | gggggtgaat  | ccccgctttg | 1140 |
| actcagcttc | ctccagctac  | tatttgagca | tgcacagcct  | cccccatgtc  | atcaaccacg | 1200 |
| tggagtcccc | gctgggatac  | agtgtgcctc | ccttgtaccc  | tgtgtcctca  | tttctactct | 1260 |
| acgtgcctga | gcttgccacac | tcaccgctgt | acattcagga  | caaggatggc  | gctccagtgg | 1320 |
| ccaccaatgc | cttccatagt  | ccccgctggg | gtggcattat  | ggtatataat  | gttgactcca | 1380 |
| aaacctataa | tgcctcagtg  | ctgccagtga | gagtcgaggt  | ggacatgggtg | cgagtgatgg | 1440 |
| aggtgttcct | ggcacagtgt  | cggttgctct | ttgggattgc  | tcagccccag  | ctgcctccaa | 1500 |
| aatgcctgct | ttcagggcct  | acgagtgaag | ggctaattgac | ctgggagcta  | gaccggctgc | 1560 |
| tctgggctcg | gtcagtggag  | aacctggcca | cagccaccac  | cacccttacc  | tccctggcgc | 1620 |

&lt;210&gt; 2899

&lt;211&gt; 2369

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (2369)

&lt;223&gt; n = a, t, c or g

&lt;400&gt; 2899

|             |            |            |            |             |             |      |
|-------------|------------|------------|------------|-------------|-------------|------|
| tttttttttt  | ttggggagca | ggaggtttta | ttgtaaagag | gccgattgta  | cagagcaaag  | 60   |
| tttgtttctg  | aacacggggg | gctgggtggt | gggaccacga | ggtccagagc  | tgggtgaagg  | 120  |
| atgaggggtg  | gcacgcggcc | atccaggcag | tgggcagggc | agggaggact  | aaacggctgc  | 180  |
| ctcccagttc  | ccttcctcgc | ccctcattac | tgggtaagag | ggagccaggc  | tatttccacg  | 240  |
| gatccaggag  | aatatagcag | gagaccctca | ccaccccaca | ccatgccccca | aggatacggg  | 300  |
| aggtgccccca | gtctggcttt | tgcagtcggc | cagctcccag | cctcctcgag  | gagcagcctg  | 360  |
| gccacacctt  | tttcccctgg | agcctggaac | agctggcttt | gggttaggag  | gctggaagca  | 420  |
| cccccttacc  | ctgtccaggc | acctcaaggg | acagcccgtg | gttccctggg  | caaaccctt   | 480  |
| agggcacagt  | gacccattgg | cttctgcctc | tggggctggg | tagcacagga  | gtgggtgggc  | 540  |
| actgaggggc  | cagcactgag | ccaggctcta | aagaggaggt | ccgagtgttg  | ggggcagtgg  | 600  |
| tctctggtgg  | gggcatagcc | ccagagatgg | ggctcctgtg | agtccagcct  | aggggttgag  | 660  |
| ggggatctga  | gccagttcac | attgtcctgg | ccacaggggt | ctctagggca  | tgacactcag  | 720  |
| ggccactctg  | cctgttccag | gccctgatcg | tggtaattta | aagctcagaa  | tgggtgatgg  | 780  |
| gggaagcctc  | agggaccaag | gccctgcctt | cccctagact | gagcccctcg  | tcggcttcat  | 840  |
| cctcacaccc  | gctgtatctc | aaacagcttc | acgtcgggtg | cgtaccagac  | aggggggtcc  | 900  |
| acattcctca  | gatagatgac | gccccacatg | taggtgcgga | accacatggc  | agtgcccag   | 960  |
| ttggcctggg  | acttgccgat | gaggatgggg | tggggcacgg | gcagcagccc  | caccaggggtg | 1020 |

|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| ccatgctgca | ggaaccgcag  | gatctcagac  | tcattccgtca | ggcccttgctc | gatgcagatc  | 1080 |
| ttctccacct | gcggaaccag  | cacctgcagc  | agcctcatga  | tggtctgcag  | eggcagcttc  | 1140 |
| gacttccagg | agaggacceca | ctctggcggt  | gggctccact  | gccactggc   | tgatgaggtg  | 1200 |
| gacggtcgcc | gctgctccct  | ccatgcctgg  | ctgggctccc  | ccttagccgg  | gctgccatcc  | 1260 |
| tccaagctct | gctggggctc  | aggttccagg  | gaccgcaagg  | tgccatcctc  | tgacacctgg  | 1320 |
| gacttctcgg | tcagcttgct  | aatgcctgga  | gtagccacca  | gactggctct  | gaggggtgcct | 1380 |
| ggctctgcag | gggcagcggg  | gcgggagccc  | tccatggagg  | tgccctccc   | tgggagccgg  | 1440 |
| tgcgagacaa | gggctcaggt  | gtccgcccgc  | gccgctgcag  | ggccttggtga | atgggtgggcg | 1500 |
| ggtccgtggg | caggttggcc  | agctggtgga  | agatgctgcg  | cttgccgatg  | atggcgtaga  | 1560 |
| ccaggttgga | gttgccatca  | aattgggtact | ggatgatggt  | gttgaagacc  | tccaggagga  | 1620 |
| agaagaccag | gtggtggttc  | tgggcggcag  | agaagaggaa  | ccaggtggtg  | gagaaggcct  | 1680 |
| ccagcaggtg | cagcaacttg  | ttggcggtca  | ccatggacag  | gctcttgagg  | tagggggaca  | 1740 |
| cgttgaccac | gatggtgagc  | aggcagtcga  | agaggggctg  | caaccgctgg  | tgcccgctgg  | 1800 |
| tgatgatctt | gtggaacacc  | cacaatgagc  | aggtcggcgt  | gggtccctgt  | gaagactggg  | 1860 |
| atgtccatgg | gcacgcggat  | tgagtagggg  | ttgttcagcc  | gcaccccgaa  | gttncgctcc  | 1920 |
| ccgctcagaa | gcagcaagat  | gaagacacca  | atgtgcatca  | ggcccacccg  | agactgatcg  | 1980 |
| gcccgggcat | cgttgaggaa  | gaagaggatg  | gggacaagga  | tgtctaggac  | gtcgctgctc  | 2040 |
| ttcagcacga | agaagaggaa  | tttctagggg  | tgccgggagg  | ggccaagtgg  | gctgagttca  | 2100 |
| agggaggggc | agctctgcc   | cacccccctc  | agtctgacac  | tgtccctgcc  | cccgggttat  | 2160 |
| tggggcagct | gctctccatc  | tccctgcagg  | gcccctcgag  | gctggcccac  | cttgttgaag  | 2220 |
| tcgcagagct | tccagaagag  | aactagcagc  | tcctggtgga  | actggatctt  | cttgggtggag | 2280 |
| ttaggcaggt | aggtctggag  | caggggggtg  | gacagcagcc  | gggctatacc  | cttgaggatg  | 2340 |
| aactggaagt | cctcctcacg  | atggatgcg   |             |             |             | 2369 |

&lt;210&gt; 2900

&lt;211&gt; 871

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(871)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2900

|            |             |            |            |            |             |     |
|------------|-------------|------------|------------|------------|-------------|-----|
| aatggccccc | gggccccctt  | cagccaagag | ggacagagca | caggcccccc | acccttgata  | 60  |
| ccacgcctag | ggcagcacgg  | agcacaaggt | cgcattcccc | ctctgaaccc | cggacaagga  | 120 |
| cctggcccca | acaaagatga  | ctcccgcggc | cctccaaacc | atcacatggg | cccgatgtca  | 180 |
| gagaggcggc | atgagcagag  | cggcgggcct | gagcatgggc | ccgagagggg | gcctttgcgg  | 240 |
| ggtggccagg | actgcagggg  | tccccctgat | aggcgtggcc | ctcaccacga | cttccccgat  | 300 |
| gacttcagca | gaccagatga  | cttccaccct | gacaagcgct | ttggccaccg | gttacgtgaa  | 360 |
| tttgaggggc | gaggaggacc  | tttaccgcaa | gaagagaagt | ggaggcgagg | gggcccctggg | 420 |
| cctccgtttc | cccctgatca  | cagggaattc | agcgaggggg | atggccgggg | tgcagcccga  | 480 |
| ggccctccgg | gggcatggga  | aggccgcagg | cccggaggat | gaacgtttcc | cccgggatcc  | 540 |
| cgaggaccca | cgttttcgag  | ggcgcagaag | aagaaagtth | cagaagagga | gccccgccga  | 600 |
| ggcatgaggg | ccgtgctccc  | cccagaggaa | gggatggtht | tcctggctct | gaagactttg  | 660 |
| gtccagagga | gaattttgat  | gcttctgagg | aagcggcccc | aggacgagat | ctcagaggtc  | 720 |
| gaggtcgggg | tacccacga   | ggtgagcgag | ttactaaaga | cacctggtct | ggaaggatag  | 780 |
| ggtgcagaat | acactggttg  | tgaatacacc | aggaacagtc | tgagtgcagc | attgtttgct  | 840 |
| ctgttgtgta | ngagggaagga | agggtttact | t          |            |             | 871 |

&lt;210&gt; 2901

&lt;211&gt; 1501

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1501)



&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2901

|             |            |             |            |             |            |      |
|-------------|------------|-------------|------------|-------------|------------|------|
| gcggccgccc  | gcgggcccgg | cccgcgcaca  | gcgcccgcac | gtacaacatg  | atggagacgg | 60   |
| agctgaagcc  | gccgggcccc | cagcaaaactt | cggggggcgg | cggcggcaac  | tccaccgagg | 120  |
| cggcggccgg  | cggcaaccag | aaaaacagcc  | cggaccgcgt | caagcggccc  | atgaatgcct | 180  |
| tcatggtgtg  | gtcccgcggg | cagcggcgca  | agatggccca | ggagaacccc  | aagatgcaca | 240  |
| actcggagat  | cagcaagcgc | ctgggcgcgg  | agtggaaact | tttgtcggag  | acggagaagc | 300  |
| ggccgttcat  | cgacgaggct | aagcggctgc  | gagcgcctgc | catgaaggag  | cacccggatt | 360  |
| ataaataaccg | gccccggcgg | aaaaccaaga  | cgctcatgaa | gaaggataag  | tacacgctgc | 420  |
| ccggcggggct | gctggccccc | ggcggcaata  | gcatggcgag | cggggtcggg  | gtgggcgcgg | 480  |
| gcctgggcgc  | gggcgtgaac | cagcgcacatg | acagttacgc | gcacatgaac  | ggctggagca | 540  |
| acggcagcta  | cagcatgatg | caggaccagc  | tgggctaccc | gcagcaccgc  | ggcctcaatg | 600  |
| cgcacggcgc  | agcgcagatg | cagcccatgc  | accgctacga | cgtgagcgcc  | ctgcagtaca | 660  |
| actccatgac  | cagctcgcag | acctacatga  | acggcttcgc | cccacctaca  | gcatgtccta | 720  |
| ctcgcagcag  | ggcacccctg | gcatggctcc  | tggctccaat | gggttcgggtg | gtcaagtccg | 780  |
| aggccagctc  | cagccccctt | gtgggttacct | cttctctcca | ctccaggggc  | ccctgccagg | 840  |
| ccggggacct  | ccgggacatg | atcagcatgt  | atctccccgg | cgccgagggtg | ccggaacccg | 900  |
| ccgccccag   | cagacttcac | atgtcccagc  | actaccagag | cggcccgggtg | cccggcacgg | 960  |
| ccattaacgg  | cacactgccc | ctctcacaca  | tgtgagggcc | ggacagcgaa  | ctggaggggg | 1020 |
| gagaaatddd  | caaagaaaaa | cgaggggaaat | gggaggggtg | caaaagagga  | gagtaagaaa | 1080 |
| cagcatggag  | aaaacccggg | acgctcaaaa  | agaaaaaggn | nnnnnnnnnn  | ntcccatcac | 1140 |
| ccacagcaaa  | ggacagctgc | aaaagaaaac  | accaatccca | tccacactca  | cgcaaaaacc | 1200 |
| gggatgccga  | caagaaaact | tttatgaaaa  | agatcctgga | cttttttttg  | ggggactatt | 1260 |
| tttgtacaga  | gaaaacctgg | gaagggtggg  | gaggccgggg | aaatggacct  | tgtatagatc | 1320 |
| tggaggaaaag | aaagctacga | aaaacttttt  | aaaagtctta | aggggtacgg  | aggagctttg | 1380 |
| caggaaagttt | gcaaaaagtt | ttaccaataa  | tattttaagg | tagggtccaa  | acgaacaaaa | 1440 |
| aaattgggta  | aaatttgga  | cgaattttgt  | gacagttttt | tggaaaaaca  | cgggcaacca | 1500 |
| a           |            |             |            |             |            | 1501 |

&lt;210&gt; 2902

&lt;211&gt; 772

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2902

|            |            |             |             |            |             |     |
|------------|------------|-------------|-------------|------------|-------------|-----|
| tttttttttt | ttgagctttc | agatttgctt  | ttattggtag  | ggaaattcca | gagtggggag  | 60  |
| ccaccagga  | ggagacaggg | gtgccgaggc  | ttctgggagt  | ctggaagctc | ccggatggag  | 120 |
| aggcttacag | ccccagcct  | tcccagcag   | gagcacaggc  | aggggactgg | ccaagtctgt  | 180 |
| cagctcagag | caggaccggc | ttcagggcct  | gacttcgggtc | tcctcttgac | ccgccccgga  | 240 |
| ggcttgtggg | gggcctctgt | gtttgcagct  | ctcctgaaca  | gagctagatg | aggggtgggag | 300 |
| gccccggtg  | gtcacacag  | tggatgctac  | catctccggc  | ctcttgatg  | tggagctctg  | 360 |
| tgccagagtc | aacagtctcc | aggggtggg   | ccgaagtgtg  | tggtagcggt | ctcaaggccg  | 420 |
| aaatctgctt | ctccctcaga | ttctgggtctg | tgccgttttc  | ttctgggata | ggctgaataa  | 480 |
| gatgattagg | atgatcaatg | cgagcagcag  | caccgccatc  | acagccccc  | cgatcccata  | 540 |
| cacgaggctc | ttggcgatgt | tgaattcaca  | ggtctctccc  | cagtaccagt | gtgtgttcgt  | 600 |
| atttgggcac | aggcagcggg | ggccactgcg  | ttgcagctga  | catgtgccca | ggttacagtt  | 660 |
| catttgcgac | ttcgttcctt | tgggtgcactt | gttcacacag  | gccagcttcc | catccaagac  | 720 |
| atccacatag | tagaactggg | tatatccttc  | ggcagccttc  | tgggtgcatt | gc          | 772 |

&lt;210&gt; 2903

&lt;211&gt; 770

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2903

|            |            |            |            |            |            |    |
|------------|------------|------------|------------|------------|------------|----|
| gagtagattd | tcgggtcaaa | accttgctgg | tggacaacaa | gtgctttgtg | ctgcagctct | 60 |
|------------|------------|------------|------------|------------|------------|----|

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| gggacacagc | tggccaagag  | aggtaccaca | gtatgacgcg | acagctgctc | cgcaaggctg | 120 |
| acggggtggt | gctcatgtac  | gacatcacct | cccaggagag | ctttgcccac | gtgcgctact | 180 |
| ggctagactg | tctccaggat  | gcagggtcgg | atggggtggt | catccttctc | ctgggaaaca | 240 |
| agatggactg | tgaggaggaa  | cggcaagtgt | ccgtggaagc | tgggcagcaa | ctggcccagg | 300 |
| aactgggggt | ctattttggg  | gagtgcagtg | ccgccttggg | tcacaacatc | ctggagcctg | 360 |
| tagtaaacct | ggccagggtca | ctcaggatgc | aagaagaagg | cctgaaggac | tcgctggtga | 420 |
| aggtggcccc | caagaggccg  | cccaagagat | tcggctgttg | ctcctgatca | cctgtcctgt | 480 |
| cctgggtagg | atggacaccc  | atgggggttc | ctgtccctca | gctcctgtcc | tttgttcttg | 540 |
| gacagcaacg | acacagagga  | ccagcttgga | ggttcaggaa | aacccttctc | aactcaggac | 600 |
| tcggatccca | gagcagggcc  | gcacacctc  | tgcctttcac | actccaaagg | agggctttgc | 660 |
| tgagtgaaca | aggcttgagg  | ggcaggggta | tggcaaaact | ctccaaacaa | agaaagtcta | 720 |
| gaaaaacgac | ttaaggaaaa  | tacaccaaaa | tattggccgc | aaaaaaaaaa |            | 770 |

&lt;210&gt; 2904

&lt;211&gt; 3410

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2904

|             |             |             |             |            |             |      |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| tttttttttt  | ttgcacaggc  | aaaaaagttt  | atctgggttg  | ctctgggtag | gatacctttt  | 60   |
| ttctttttct  | ctatttttata | catcctgaca  | attatttcca  | agatgataca | tgcctcaaaa  | 120  |
| caaacaaaac  | ccctcgagac  | acactcccca  | gccccagggt  | aaggcatgtg | tctgggctgt  | 180  |
| gtaggggctt  | ccgctctcct  | gggggtagct  | ctgccacggg  | ctctgggggt | ttggcatctg  | 240  |
| tcacagaacc  | ctagtgggta  | cagggtcac   | tgtcccacag  | ccccaggcca | cacgggtgatg | 300  |
| tgctgtggcc  | caggggaggc  | caccctggac  | tcctgggtcag | gatctgcca  | catgaggaag  | 360  |
| tgcgccttgg  | ggtaggggcca | caggctggct  | cagaggtgcc  | cttctctcca | cagccagtcc  | 420  |
| caggagggag  | ctgggttctg  | gtttatgcga  | cgtcagaggg  | acggcagggg | gtggagggca  | 480  |
| agctagaaaa  | gcccagctt   | gttggttcag  | ccattttaat  | acattcaaga | atatttacta  | 540  |
| gaacaacatt  | taaacgtatc  | gtcgggtccgc | agaagcctgg  | gatcgagaga | aatagaaacg  | 600  |
| cgactggccc  | ttttgcagta  | aagcttgtgc  | ttgaaggagg  | aagaggcaaa | gtggcttctt  | 660  |
| ggagacttcg  | tgccagatgc  | cacaggactg  | agagcatctc  | caaatgtcac | tttaaacacg  | 720  |
| tgtgaggcat  | ctataggcat  | tcctaaagcc  | cacagtgtcc  | ctaaggatcc | ctatttagacg | 780  |
| aggccaaaag  | ggcaatgctt  | tcttggaacc  | ctctcccttg  | cagctctgca | cgcaaacatt  | 840  |
| ccccaaaggga | ggggcccagag | gcaagcctct  | agataggcgg  | ggccaagccc | tccccgtgcc  | 900  |
| caccctcttt  | ccctgttgct  | gacctcaggc  | ctgatgctgg  | acccatgaga | ctcccagagg  | 960  |
| gaaaacacag  | atacagccca  | tccatccatg  | gccaccttcc  | tccagaagat | cctggggacc  | 1020 |
| cctaccccc   | catcccatga  | ggcaccaggg  | ctgggctcgc  | atggccagca | agggataaag  | 1080 |
| ttgggaactg  | cagaccaggg  | gaagccccct  | cattcttagg  | gcaaaacagc | ccctgaaggga | 1140 |
| caaaataaat  | aaaccaaacc  | atgaccagac  | agctggatcc  | ggacagggtg | agtggcctct  | 1200 |
| gtgaaggcaa  | atgagagcaa  | aagtgggaac  | tgaggacacc  | taagtggaga | gacacttaa   | 1260 |
| aacagtaatt  | ctcacatgaa  | catcagtggc  | tcatgccaac  | agcagagctg | gccatcaaca  | 1320 |
| gaggaacagc  | aacaaaaaca  | caactcagac  | agggggcggg  | acggggccag | gagtctgcgg  | 1380 |
| gggtctctga  | tatgctttgt  | ggcatgactt  | tgcttgccctg | gcctctcctt | tcttagctga  | 1440 |
| aaacaggcat  | ttcaccaaag  | ggcatccagc  | cagcggcagc  | agcctgagct | cccaggctga  | 1500 |
| catctgggca  | gggctgatgg  | gcagcttctg  | gccatctggg  | gaccagggtg | gccgccagct  | 1560 |
| gcacccacat  | gcacagcccc  | tttcctaata  | accacattct  | aggttacgta | gacacgttaa  | 1620 |
| actcctatct  | tagaacatcg  | tgcttgaatg  | cagacccctc  | agcccacaat | cgggctggct  | 1680 |
| gggcctcctg  | tgagccccct  | attgcatcca  | gtctgtgggg  | cagtgaaccc | gcttccactg  | 1740 |
| gtggctggtc  | ttcctcatgg  | tgctatgcag  | gtgccaaaca  | cagttatatt | ctcaaaggta  | 1800 |
| caggtcttgt  | ctggacattg  | ttcaaaccac  | tagctactgc  | gttaggcaca | cgggagatcc  | 1860 |
| ctattcccaa  | aaatagctgt  | tgagttcttg  | cctgagagca  | tctccagtga | ccacctttaa  | 1920 |
| ataaggcttt  | ggttcaaaca  | gcattggacc  | agcacctggg  | gagggtgggc | acagggggca  | 1980 |
| tggacccagt  | acctggggag  | ggcgggcatg  | gtggtaggag  | acaactcaac | cactgagtct  | 2040 |
| tggaggctct  | gccttggcca  | tggagggcag  | tggctgccct  | cacaagaaga | gttaaggcac  | 2100 |
| tttctttaac  | tctggcctag  | gagaattatg  | tcttagtgac  | tcagtgaagt | taaatgacac  | 2160 |
| tgcctgggct  | ccctaaagtt  | gtttactttt  | ctcctatttc  | ctgctttatt | ccttgctctc  | 2220 |
| accatgctaa  | tgtacagatg  | ttgttttagat | ttctatgctt  | attgaaaaca | atgtaacttt  | 2280 |
| ggtactaatc  | agaacaggag  | cgaccttttc  | cagcattgct  | cgtaacaaaa | caaaaatgtt  | 2340 |
| aactagaaaa  | actccttatg  | atgaagaaat  | ctaaagccag  | agctgggact | ccaaaccctt  | 2400 |
| tccaggctgg  | aagacaggct  | gctgagtgca  | ggcaaggggc  | ccccgtaact | gcttcccgc   | 2460 |
| agaaagccca  | gccgcgtgag  | tgcagcagca  | gcaccccagc  | cctggcgtgc | ccgcaccacg  | 2520 |

|            |             |            |            |            |            |      |
|------------|-------------|------------|------------|------------|------------|------|
| ccctctagat | actctcctag  | ctcaggctga | acacgcctgg | attgtgtcgg | ccggggcagc | 2580 |
| cccgtcaggt | gtggggcagc  | tgacccacgt | ctgtggtgaa | catgctcctc | caaactagga | 2640 |
| cgggtgaagg | cccagggcgc  | tgggaactgc | caggcgctga | ctctccttct | gggttctcac | 2700 |
| cagcacccga | acccacccca  | gccaatagtc | aggaagtgcc | gcggccgagc | cttcatcaac | 2760 |
| cctagtgagt | ttccacacaga | actgaatccc | ttttcccaaa | ttcagctgtg | catgagccct | 2820 |
| ttttgttttg | tgccctggag  | cactagtgtg | gttcaatatt | ctcttcagaa | ggaaaactcc | 2880 |
| agcagccacc | ggcctgcagg  | atgtgtgctg | agcccacatg | acctgaatgg | acgggtcatg | 2940 |
| tgggaggggc | cctggtggga  | gctgtgggcc | acacggctga | gttcttccaa | tacggaagcc | 3000 |
| ccgagctgga | ggctcacacg  | ctgtggggca | gcccagagtt | gctggaagct | ttacaggggt | 3060 |
| gcgtagctaa | tggcgtcggg  | gtcgctcggg | cgctgtggag | gggtaccccc | gctattgggg | 3120 |
| cggctcctcc | cggcatgctc  | aggtctcaaa | gtacttgtag | atcgccgtca | catacagcat | 3180 |
| cacgttctgc | cagtccgggtc | gttcagtcgg | taccatttca | ttaatgtcca | gtgtggattt | 3240 |
| gatgccgaca | ctttcagctg  | cctggaaagc | cagcatgaag | ttccttctct | tatcctggct | 3300 |
| gttcagttct | tgatatggaa  | tgtgggcagg | gagatatgta | tgcaggaggg | cacagaaggc | 3360 |
| cagcccatca | ttccagctgc  | tgctgaagtt | tgtaatgtca | atattctgcc |            | 3410 |

&lt;210&gt; 2905

&lt;211&gt; 1811

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1811)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2905

|             |             |             |             |            |            |      |
|-------------|-------------|-------------|-------------|------------|------------|------|
| ctcgctcgtga | cagccatcac  | tgccatcctg  | gctttcccca  | atgaatacac | tcggatgagc | 60   |
| acaagtgagc  | tcattttctga | gctgtttaat  | gactgtggcc  | ttctggactc | ctccaagctc | 120  |
| tgtgattatg  | agaaccgttt  | caacacaagc  | aaaggggggtg | aactgcctga | cagaccggct | 180  |
| ggcgtgggag  | tctacagtgc  | aatgtggcag  | ctggctttaa  | cactcatact | gaaaattgtc | 240  |
| attactatat  | tcaccttttg  | catgaagatc  | ccttctggcc  | tctttatccc | tagcatggct | 300  |
| gttggtgcta  | tagcaggctcg | acttctagga  | gtaggaatgg  | aacagctggc | ttattaccac | 360  |
| caggaatgga  | ccgtcttcaa  | tagctgggtg  | agtcaggag   | ctgattgcat | cacccccggc | 420  |
| ctttatgcaa  | tggttggggc  | tgacgcctgc  | ttagggtggg  | tgactcggat | gactgtttct | 480  |
| cttggtgtca  | taatgtttga  | actgactggg  | ggcttagaat  | acatcgtgcc | tctgatggct | 540  |
| gcagccatga  | caagcaagtg  | ggtggcagat  | gctcttgggc  | gggagggcat | ctatgatgcc | 600  |
| cacatccgtc  | tcaatggata  | cccctttctt  | gaagccaaag  | aagagtttgc | tcataagacc | 660  |
| ctggcaatgg  | atgtgatgaa  | accccgagga  | aatgatcctt  | tgttgactgt | ccttactcag | 720  |
| gacagtatga  | ctgtggaaga  | tgtagagacc  | ataatcagtg  | aaaccactta | cagtggcttc | 780  |
| ccagtgggtg  | tatcccggga  | gtcccaaaga  | cttgtgggct  | ttgtcctccg | aagagatctc | 840  |
| attattttcaa | ttgaaaatgc  | tcgaaagaaa  | caggatgggg  | ttgttagcac | ttccatcatt | 900  |
| tattttcacgg | agcattctcc  | tcatttgcca  | ccatacactc  | cacccactct | aaagcttcgg | 960  |
| aacatcctcg  | atctcagccc  | cttcaactgtg | actgacctta  | cacccatgga | gatcgtagtg | 1020 |
| gatatttttcc | gaaagctggg  | actgcggcag  | tgccctggta  | cacacaacgg | gcgattgctt | 1080 |
| ggaatcatta  | ccaaaaagga  | tgtgttaaag  | catatagcac  | agatggcgaa | ccaagatcct | 1140 |
| gattccattc  | tcttcaacta  | gaatcataga  | gttctgggatg | taaagcggga | aggacattac | 1200 |
| agaccatgga  | tatgttgtat  | taactgggta  | cccaaaacac  | attttccata | tttggatggg | 1260 |
| gaagtcacat  | tagtgtgttg  | tctctttcct  | acaagttaac  | cagttgcact | acataatctc | 1320 |
| tggaaattaa  | ttttctcttt  | aggagaaatt  | atagttaggc  | ttccatgatg | ttacatttag | 1380 |
| gaaggatatca | tgaaggtttt  | aaataagggt  | ggctatgggt  | gtnaattata | tttgcctttt | 1440 |
| taaaagattt  | ttttaactta  | aaaagtagtt  | agccaatatg  | caatcactga | aaactatgca | 1500 |
| agagaaattc  | caaccgtcct  | gacctataac  | ctgtaggaaa  | ccgacgaaaa | agtcactctt | 1560 |
| ttgggatcta  | actgttgtta  | ctggaagacg  | aaggtaaact  | aaggggcttt | gcttttcaaa | 1620 |
| ccagagaaaag | gaaagccaga  | aggaaaagag  | taatggtatt  | ttctagactg | tgaagattca | 1680 |
| gttcaaattgt | tatccttggt  | cctgttacaa  | tatttagcat  | tattagtttg | ttatgtgtgt | 1740 |
| atgttttatgt | taattttaat  | ttctgattat  | aagacaatgc  | tgctttgggt | aatctcttct | 1800 |
| aaaggaattt  | a           |             |             |            |            | 1811 |



<210> 2906  
 <211> 627  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1) ... (627)  
 <223> n = a,t,c or g

<400> 2906

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| tcttggtgct | ggacaggcat  | ctttgttttg | ggaacaacca | acctaagatt | ggagggctct | 60  |
| tggtacagga | gcctttgggg  | ccctggattt | aatactacga | cagccacttt | gggctttgga | 120 |
| gccccccagg | ccccagtagg  | ggatgtggct | ctaaatcagc | cggacatgtg | cgtctaccga | 180 |
| agagggagga | agaagagagt  | gccttacacc | aaactgcagc | ttaaagaact | ggagaacgag | 240 |
| tatgccatta | acaaattcat  | taacaaggac | aagcggcggc | gtatctcggc | tgctacgaac | 300 |
| ctatctgaga | gacaagtgac  | catttggttt | cagaaccgaa | gagtgaagga | caagaaaatt | 360 |
| gtctccaagc | tcaaagatac  | tgtctcctga | tgtggtcag  | gttggccaca | gacagcttag | 420 |
| aagccattcg | gttgtctcca  | aaaggccttt | ggaaagactt | gaatatgtat | ttaattcccc | 480 |
| ccacccctg  | ccaatggtgg  | caaattttgt | gaattgtttt | tctctcttcc | ccttatctgg | 540 |
| ctctaaaacc | ttctgctgcc  | caacctgact | ttgtagttct | gaattttact | tggttattna | 600 |
| tggntnntgt | cttgccctagg | tttttaa    |            |            |            | 627 |

<210> 2907  
 <211> 3918  
 <212> DNA  
 <213> Homo sapiens

<400> 2907

|            |            |             |             |            |            |      |
|------------|------------|-------------|-------------|------------|------------|------|
| gcgcggagga | gggggcgacc | acaagatggc  | ggacctctcg  | ctgcttcagg | aggacctgca | 60   |
| ggaggacgca | gacggatttg | gtgtggatga  | ctacagctca  | gagtctgatg | tgattattat | 120  |
| accttcagcc | ctggacttgg | cctccacaaa  | gatgaaatgg  | ttgaacgccc | cctgggaaga | 180  |
| ttgggacaaa | gtatgctgca | agtgagaacc  | atattttaacc | agacaaaatg | gtggccccgg | 240  |
| agtttgctc  | gatacccttg | agggaaagtc  | tgcgatgatg  | aaagagattg | tattgctgtt | 300  |
| ttgggaaaga | attagccaga | ttggggccgat | gattcagaac  | caacttgtga | gagcggctga | 360  |
| attggaacag | gtgcctcaca | tgcactgtt   | tttgttcaag  | aaaaccgccc | tttcaattac | 420  |
| catatgcttt | ttttcaaaat | tcttactacc  | ctattgtggg  | ttagatacct | tggcagatca | 480  |
| gaattaatca | ggtgaggaaa | acaagtcagg  | cagctttgct  | tggctctgtt | ggagcaggag | 540  |
| ctcattgaac | gatttgatgt | ggagaccaaa  | gtgtgccctg  | tcctcataga | gctgacagcc | 600  |
| ccagatagca | atgatgatgt | gaaaacagaa  | gctgtggcta  | taatgtgcaa | aatggctccc | 660  |
| catggttggg | aaggatatta | cagagcgtct  | tatcctccct  | agggtttgtg | agatgtgctg | 720  |
| cgattgcaga | atgtttcacg | gttcggaaag  | gtctgtgctg  | ccaattttgg | agatatttgc | 780  |
| agtgtagtgt | gccagcaagc | tactgaagaa  | atgttgctgc  | ccagattttt | ccagctttgt | 840  |
| tctgataatg | tatggggagt | ccgaaaggct  | tgtgctgaat  | gcttcatggc | ggtttcatgt | 900  |
| gcaacatgtc | aagaaatccg | acggaccaaa  | ttatcagcac  | tttttattaa | tttgatcagt | 960  |
| gacctttcac | gttgggttcg | ccaagcagct  | tttcagtctc  | tgggaccttt | catatctact | 1020 |
| tttgctaate | catctagctc | aggccagtat  | tttaaagaag  | aaagcaaaag | ttcagaagag | 1080 |
| atgtcagtag | aaaacaataa | aaggaccaga  | gatcaagaag  | ccccagagga | tgtacaagtc | 1140 |
| aggccagagg | atactccttc | agatctcagt  | gttagtaatt  | ccagtgtcat | actggaaaac | 1200 |
| acgatggaag | accatgctgc | tgaggcatcc  | gggaagcctc  | taggtgaaat | tagtgttcca | 1260 |
| ctggacagct | ctttactttg | tactttgtcc  | tcagaatctc  | accaggaagc | agctagtaat | 1320 |
| gagaatgata | aaaaacctgg | taactacaaa  | tctatgttac  | gaccagaggt | tggcaccact | 1380 |
| tcacaagatt | cagctctctt | agatcaggaa  | ttgtataact  | ccttccattt | ctggaggact | 1440 |
| cctcttcctg | aaatagatct | agacatagag  | cttgaacaga  | actctggggg | aaaaccagc  | 1500 |
| ccagagggac | cagaggaaga | atctgagggc  | cctgtgccca  | gttctccaaa | catcaccatg | 1560 |
| gccaccagaa | aggaactgga | agaaatgata  | gaaaatctag  | agccccacat | tgatgatcca | 1620 |
| gatgttaaag | cacaagtgga | agtgctgtcc  | gctgcactac  | gtgcttccag | cctggatgca | 1680 |
| catgaagaga | ccatcagtat | agaaaagaga  | agtgatattgc | aagatgaact | ggatataaat | 1740 |
| gagctaccaa | attgtaaaat | aaatcaagaa  | gattctgtgc  | ctttaatcag | cgatgctgtt | 1800 |
| gagaatatgg | actccactct | tcactatatt  | cacaacgatt  | cagacttgag | caacaatagc | 1860 |

|             |            |             |            |             |            |      |
|-------------|------------|-------------|------------|-------------|------------|------|
| agtttttagcc | ctgatgagga | aaggagaact  | aaagtacaag | atgttggtacc | tcaggcgttg | 1920 |
| ttagatcagt  | atttatctat | gactgaccct  | tctcgtgcac | agacgggttg  | cactgaaatt | 1980 |
| gctaagcact  | gtgcatatag | cctccctggg  | gtggccttga | cactcggaag  | acagaattgg | 2040 |
| cactgcctga  | gagagacgta | tgagactctg  | gcctcagaca | tgcagtggaa  | agttcgacga | 2100 |
| actctagcat  | tctccatcca | cgagcttgca  | gttattcttg | gagatccaat  | tgacagctgc | 2160 |
| agatctgggt  | ccaattttta | atgggttttt  | aaaatgaccg | tcgatgaagt  | caaggatagg | 2220 |
| tgttcttaaa  | cacttgcatg | attttctgaa  | gcttcttcat | attgacaaaa  | gaagagaata | 2280 |
| tctttatcaa  | cttcaggagt | ttttggtgac  | agataatagt | agaaattggc  | ggtttcgagc | 2340 |
| tgaactggct  | gaacagctga | ttttacttct  | agagttatat | agtcccagag  | atgtttatga | 2400 |
| ctatttacgt  | cccatgtctc | tgaatctgtg  | tgcagacaaa | gtttcttctg  | ttcgttggat | 2460 |
| ttcctacaag  | ttggtcagcg | agatggtgaa  | gaagctgcac | gcggcaacac  | caccaacgtt | 2520 |
| cggagtggac  | ctcatcaatg | agcttgtgga  | gaactttggc | agatgtccca  | agtggctctg | 2580 |
| tccgcaagcc  | tttgtctttg | tctgccagac  | tgtcattgag | gatgactgcc  | ttcccatgga | 2640 |
| ccagtttgct  | gtgcatctca | tgcgcactct  | gctaacctta | gcaaatagaca | gggttcctaa | 2700 |
| cgtgcgagtg  | ctgcttgcaa | agacattaag  | acaaactcta | ctagaaaaag  | actatttctt | 2760 |
| ggcctctgcc  | agctgccacc | aggaggctgt  | ggagcagacc | atcatggctc  | ttcagatgga | 2820 |
| ccgcgacagc  | gatgtcaagt | attttgcaag  | catccaccct | gccagtacca  | aaatctccga | 2880 |
| agatgccatg  | agcacagcgt | cctcaacctta | ctagaaggct | tgaatctcgg  | tgtctttcct | 2940 |
| gcttccatga  | gagccgaggt | tcagtgggca  | ttcgccacgc | atgtgacctg  | ggatagcttt | 3000 |
| cgggggagga  | gagaccttcc | tctcctgcgg  | acttcattgc | aggtgcaagt  | tgctacacc  | 3060 |
| caataccagg  | gatttcaaga | gtcaagagaa  | agtacagtaa | acactattat  | cttatcttga | 3120 |
| ctttaagggg  | aaataatttc | tcagaggatt  | ataattgtca | ccgaagcctt  | aaatccttct | 3180 |
| gtcttcttga  | ctgaatgaaa | cttgaattgg  | cagagcattt | tccttatgga  | agggatgaga | 3240 |
| ttcccagaga  | cctgcattgc | tttctcctgg  | ttttatttaa | caatcgacaa  | atgaaattct | 3300 |
| tacagcctga  | aggcagacgt | gtgcccagat  | gtgaaagaga | ccttcagtat  | cagccctaac | 3360 |
| tcttctctcc  | caggaaggac | ttgctgggct  | ctgtggccag | ctgtccagcc  | cagccctgtg | 3420 |
| tgtgaatcgt  | ttgtgacgtg | tgcaaattgg  | aaaggagggg | tttttacatc  | tcctaaagga | 3480 |
| cctgatgcca  | acacaagtag | gattgactta  | aactcttaag | cgcagcatat  | tgctgtacac | 3540 |
| atttacagaa  | tgggttgcga | gtgtctgtgt  | ctgatttttt | catgctggtc  | atgacctgaa | 3600 |
| ggaaatttat  | tagacgtata | atgtatgtct  | ggtgttttta | acttgatcat  | gatcagctct | 3660 |
| gaggtgcaac  | ttcttcacat | actgtacata  | cctgtgacca | ctcttgggag  | tgctgcagtc | 3720 |
| tttaatcatg  | ctgtttaaac | tgttgtggca  | caagttctct | tgtccaaata  | aaatttatta | 3780 |
| ataagatcta  | tagagagaga | tatatacact  | tttgattgtt | ttctagatgt  | ctaccaataa | 3840 |
| atgcaatttg  | tgacctgtat | taatgattta  | aagtggggaa | actagattaa  | aatatttgtc | 3900 |
| ttttaactag  | ttaaaaaa   |             |            |             |            | 3918 |

&lt;210&gt; 2908

&lt;211&gt; 2562

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2908

|             |             |             |            |             |             |      |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| gggatggggg  | cggagtccag  | ggcgtggggg  | ggccgggttg | ttgtgggtcgc | cattttgctg  | 60   |
| gttgcattac  | tgggtaatcg  | gggccctggc  | ttgccgcgtc | cgccgggatac | cctcagccag  | 120  |
| tgggcaggtc  | tgagctcggg  | ctccccgagc  | agtttgagtc | cccttgcccc  | ctccttcagg  | 180  |
| tctcagcggc  | ggtggcagcc  | gaggtgcagg  | atgcaagaag | gcgccccccg  | gccgggctcc  | 240  |
| cgtccagggc  | ctcgtctccc  | tgcggccctc  | tgagcccacc | atggccgtcc  | caccgggcca  | 300  |
| tggtccttcc  | tctggcttcc  | cagggcccca  | ggagcacacg | caggtattgc  | ctgatgtgcg  | 360  |
| gctactgcct  | cggaggctgc  | ccctggcctt  | ccgggatgca | acctcagccc  | cgctgcgtaa  | 420  |
| gctctctgtg  | gacctcatca  | agacctacaa  | gcacatcaat | gaggtatact  | atgcgaagaa  | 480  |
| gaagcggcgg  | gcccagcagg  | cgccacccca  | ggattcgagc | aacaagaagg  | agaagaagggt | 540  |
| cctgaaccat  | ggttatgatg  | acgacaacca  | tgactacatc | gtgcgcagtg  | gcgagcgtcg  | 600  |
| gctggagcgc  | tacgaaattg  | actcgtctcat | tggcaaaggc | tcctttggcc  | aggtgggtgaa | 660  |
| agcctatgat  | catcagaccc  | aggagcttgt  | ggccatcaag | atcatcaaga  | acaaaaagge  | 720  |
| tttcttgaac  | caggcccgaga | ttgagctgcg  | gctgctggag | ctgatgaacc  | agcatgacac  | 780  |
| ggagatgaag  | tactatatag  | tacacctgaa  | gcggcacttc | atgttcggga  | accacttgtt  | 840  |
| gcttgggtatt | tgagctgctg  | tcctacaacc  | tgtacgacct | cctgcgcaac  | accacttccc  | 900  |
| gcggcgtctc  | gctgaacctg  | acccggaagc  | tggcgcagca | gctctgcacg  | gcactgctct  | 960  |
| ttctggccac  | gcctgagctc  | agcatcatte  | actgcgacct | caagcccga   | aacatcttgc  | 1020 |
| tgtgcaaccc  | caagcgcagc  | gccatcaaga  | ttgtggactt | cggcagctcc  | tgccagcttg  | 1080 |
| gccagaggat  | ctaccagtat  | atccagagcc  | gcttctaccg | ctcacctgag  | gtgctcctgg  | 1140 |

```

gcacacccta cgacctggcc attgacatgt ggtccctggg ctgcatcctt gtggagatgc 1200
acaccggaga gcccctcttc agtggctcca atgaggtgtg ccccaggaa ggggtcgacc 1260
agatgaaccg cattgtggag gtgctgggca tcccaccggc cgccatgctg gaccaggcgc 1320
ccaaggctcg caagtacttt gaacggctgc ctgggggtgg ctggacccta cgaaggacga 1380
aagaactcag gaaggattac cagggccccg ggacacggcg gctgcaggag gtgctgggcg 1440
tgcagacggg cgggcccggg ggccggcggg cgggggagcc gggccacagc cccgccgacc 1500
taccctccgc ttccaggacc tgggtgctgc catgctggag tatgagcccg ccgcccgcac 1560
cagccccctg ggggtctctg agcacggctt ctcccgccgc acggccgacg aggccaccaa 1620
cacgggcccc gcaggcagca gtgcctccac ctcccgccgc cccctcgaca cctgcccctc 1680
ttccagcacc gccagctcca tctccagttc tggaggctcc agtggctcct ccagtgacaa 1740
ccggacctac cgctacagca accgatattg tgggggcctt gggcccccta tcacagactg 1800
tgagatgaac agcccccagg tcccaccctc ccagccgctg cggccctggg caggggggtga 1860
tgtgccccac aagacacatc aagccccctg ctctgcctcg tcaactgcctg ggaccggggc 1920
ccagttaccc ccccagcccc gataccttgg tcgtcccca tcaccaacct caccaccacc 1980
cccggagctg atggatgtga gcctgggtgg cggccctgct gactgctccc cacctacccc 2040
agcgcttgc ccccagcacc cggctgcctc agccctccgg actcggtatga ctggaggctg 2100
tccaccctc ccgctcctg atgacctgc cactctgggg cctcacctgg gcctccgtgg 2160
tgtacccag agcacagcag ccagctcgtg accctgcccc ctccctgggg cccctcctga 2220
agccataccc tccccatct gggggccctg ggctcccatc ctcatctctc tccttgactg 2280
gaattgctgc taccagctg ggggtgggtga ggctgcact gattggggcc tggggcaggg 2340
gggtcaagga gaggggtttt gccgctccct cccactaag gactggacce ttggggccct 2400
ctcccccttt ttttctattt attgtaccaa agacagtggg ggtccggtgg agggaagacc 2460
ccccctcacc ccaggacctt aggagggggg gggggcaggt agggggagat ggccttgctc 2520
ctcctcgctg tacccccagt aaagagcttt ctcaaaaaaa aa 2562

```

&lt;210&gt; 2909

&lt;211&gt; 422

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (422)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2909

```

cttcatttcc agcaacactt atgaatttgc agtgattttt ctcacattgc tactaccatt 60
ttgggtgacca gaggagtact acccattctc cccaacattg caacaactct ttttttctc 120
cctagattct gacatggggg ctccggcctga gtctatggga tgtagaaaaa acacagtgcc 180
aaggccagca tctccaacag aagcaggtac tgacccccaa accttcttac acacttgggt 240
gtctgaatgc agagactaaa tgggtgcacc aagagtttta tcaatgaacg gatgtattga 300
catcactcta ttctgtatcc atggactctc ctttaatctt ttaacccaat tatccagctc 360
ataaatatgg gaagctcctc agatgggcca ttgtcacaag aaagaaggca naatcactgc 420
aa 422

```

&lt;210&gt; 2910

&lt;211&gt; 1119

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2910

```

gtccgtcacc cacgcgtcgg agaactgcc actactttcc aagtggccac atcagttttt 60
attcccctgg cagtgtatga gagtttcagc ttctccacat tcaggatatc tagtctggct 120
ctgggtgccc catcaccatt cccgtttcct tccaggagct gctccggaca caggaggagc 180
ttaaggaact gtaggcagaa cggcagagcc aggaggtggc tgggcgacac cgggaccggg 240
agttggagaa gcagctggcg gtccctgaggg tcgaggctga tcgaggctcg gagctggaag 300
aacagaacct ccagctacaa aagaccctcc agcaactgcg acaggactgt gaagaggctt 360
ccaaggcaag gctaagatgg tggccgaggc agaggcaaca gtgctggggc agcggcgggc 420

```



|            |             |            |             |             |             |      |
|------------|-------------|------------|-------------|-------------|-------------|------|
| cgcagtggag | acgacgcttc  | gggagaccca | ggaggaaaat  | gacgaattcc  | gccggcgcat  | 480  |
| cctgggtttg | gagcagcagc  | tgaaggagac | tcgaggtctg  | gtggatgggtg | gggaagcggg  | 540  |
| ggaggcacga | ctacgggaca  | agctgcagcg | gctggaggca  | gagaaacagc  | agctggagga  | 600  |
| ggccctgaat | gcgctcccagg | aagaggaggg | gagtctggca  | gcagccaagc  | gggcactgga  | 660  |
| ggcacgccta | gaggaggctc  | agcgggggct | ggcccgcctg  | gggcaggagc  | agcagacact  | 720  |
| gaaccgggcc | ctggaggagg  | aagggaagca | gcgggagggtg | ctccggcgag  | gcaaggctga  | 780  |
| gctggaggag | cagaagcggt  | tgctggacag | gactgtggac  | cgactgaaca  | aggagttaga  | 840  |
| gaagatcggg | gaggactcta  | agcaagccct | gcagcagctc  | caggcccagc  | tggaggatta  | 900  |
| taaggaaaag | gcccggcggg  | aggtggcaga | tgcccagcgc  | caggccaagg  | attgggcccag | 960  |
| tgaggctgag | aagacctctg  | gaggactgag | ccgacttcag  | gatgagatcc  | agaggctgcg  | 1020 |
| gcaggccctg | caggcatccc  | aggctgagcg | ggacacagcc  | cggctggaca  | aagagctact  | 1080 |
| ggcccagcga | ctgcaggggc  | tggagcaaga | ggcagagaa   |             |             | 1119 |

&lt;210&gt; 2911

&lt;211&gt; 1347

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2911

|            |             |             |             |             |            |      |
|------------|-------------|-------------|-------------|-------------|------------|------|
| tttcggcgca | gtttcctaca  | ggcccggaaa  | cggatcgtgt  | tgggtgaagg  | tgacggcgtc | 60   |
| gagcgacctc | tctgacctca  | tctcctgect  | gtgtcctcct  | cgctccctct  | gctccagcca | 120  |
| agcatgcgtc | cttcctgttc  | ctgggcccag  | cttgctcctg  | cctcaaggcc  | ttcacgtggg | 180  |
| ctgtgcctct | gctggaactc  | gctggcccct  | cagctgcagc  | attgacttcc  | aaagactcct | 240  |
| ggcacatgag | gaagaaaccc  | agaagaggag  | agcaaaggag  | tcaggaatgg  | cttttactca | 300  |
| gttgacattc | agggacgtgg  | ccatcgaatt  | ctctcaagat  | gagtggaaat  | gcctgaactc | 360  |
| tacacagagg | actttataca  | gggatgtgat  | gttgaggaaac | tacaggaacc  | tggtctccct | 420  |
| ggatctgtct | cgtaactgtg  | taatcaagga  | actagcacca  | caacaggaag  | gtaaccagg  | 480  |
| agaagtattc | cacacagtga  | cattggaaca  | acatgaaaaa  | catgacattg  | aagagttttg | 540  |
| cttcagggaa | atcaagaaaa  | aaatacacga  | ctttgactgt  | cagtggagag  | atgatgaaag | 600  |
| aaattgcaac | aaagtgacta  | cggcccccac  | agaaaatctt  | acttgtagga  | gagaccaacg | 660  |
| cgatagaaga | ggtataggaa  | acaagtctat  | taaacatcag  | cttggattaa  | gctttctacc | 720  |
| acatcccat  | gaactgcagc  | agtttcaagc  | tgaagggaac  | atztatgaat  | gtaaccatgt | 780  |
| tgagaagtct | gtcaaccatg  | gttcctcagt  | ttcaccaccc  | caaataattt  | cttctaccat | 840  |
| caaaacccat | gtttcttaata | aatatgggac  | tgatttcac   | tggtcttcac  | tactcacaca | 900  |
| agaacagaaa | tcattgcatta | gggaaaaaac  | ttacagatat  | attgagtgcg  | acaaagcctt | 960  |
| gaatcatggc | tcacacatga  | ctgtacgtca  | ggtaagtcac  | tctggagaga  | aaggatataa | 1020 |
| atgtgatctg | tgtggcaagg  | tcttttagtca | aaaatcaaac  | cttgccgctc  | attggagagt | 1080 |
| tcatactgga | gagaaacat   | acaaatgtaa  | tgaatgtgac  | agaagtttca  | gtcgcaactc | 1140 |
| atgccttgca | ctacatcgga  | gagttcacac  | tggagagaaa  | ccttacaaat  | gttatgagt  | 1200 |
| tgacaaggtc | ttcagtcgaa  | attcatgcct  | tgcactacat  | cagaaaactc  | atattggaga | 1260 |
| gaaaccttac | acgtgtaaag  | agtgtgggca  | agcctttagt  | gtgagggtcaa | cacttaccaa | 1320 |
| ccatcaggta | attcatagt   | acaagaa     |             |             |            | 1347 |

&lt;210&gt; 2912

&lt;211&gt; 2012

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2912

|            |             |             |            |            |            |     |
|------------|-------------|-------------|------------|------------|------------|-----|
| gacgggcgat | ggctgtgggtc | cttctgctaa  | tgcaaacac  | aaaacgggca | cactagtcac | 60  |
| ccccgagggg | ggccaccatc  | actgtaactg  | ttggccaaag | ctacaaaaga | agcgagggaa | 120 |
| tccaaccgag | cgcagcgaca  | ctgagaacag  | cttcccctgc | cttctgcggc | ggcagaagtg | 180 |
| aagtgcctga | ggaccggaag  | gatgggtgcag | tctgtctccg | cctacggctg | caagaaccgc | 240 |
| tacgacaagg | acaagcccg   | ttctttccac  | aagtttcctc | ttactcgacc | cagtctttgt | 300 |
| aaagaatggg | aggcagctgt  | cagaagaaaa  | aactttaaac | ccaccaagta | tagcagtatt | 360 |
| tgttcagagc | actttactcc  | agactgcttt  | aagagagagt | gcaacaacaa | gttactgaaa | 420 |
| gagaatgctg | tgcccacaat  | atttctttgt  | actgagccac | atgacaagaa | agaagatctt | 480 |
| ctggagccac | aggaacagct  | tccccacct   | cctttaccgc | ctcctgtttc | ccagggtgat | 540 |

|             |            |            |            |            |             |      |
|-------------|------------|------------|------------|------------|-------------|------|
| gctgctattg  | gattactaat | gccgcctctt | cagacccctg | ttaatctctc | agttttctgt  | 600  |
| gaccacaact  | atactgtgga | ggatacaatg | caccagcgga | aaaggattca | tcagctagaa  | 660  |
| cagcaagttg  | aaaaactcag | aaagaagctc | aagaccgcac | agcagcgatg | cagaaggcaa  | 720  |
| gaacggcagc  | ttgaaaaatt | aaaggagggt | gttcaacttc | agaaagagaa | agacgacgta  | 780  |
| tcagaaagag  | gttatgtgat | tctaccaa   | gactactttg | aaatagttga | agtaccagca  | 840  |
| taaaaaaatg  | aaatgtgtat | tgatttctaa | tggggcaata | ccacatatcc | tcctctagcc  | 900  |
| tgtaaaggag  | tttcatttaa | aaaaataaca | tttgattact | tatataaaaa | cagttcagaa  | 960  |
| tatttttttta | aaaaaaattc | tatatatact | gtaaaattat | aaattttttt | gtttgtaatt  | 1020 |
| tcagggtttt  | tacattttta | caaaatattt | taaaagttat | aaactaacct | cagacctcta  | 1080 |
| atgtaagttg  | gtttcaagat | tggggatttt | gggggttttt | tttagtattt | atagaaataa  | 1140 |
| tgtaaaaaata | aaaagtaaag | agaatgagaa | cagtgtggta | aaagggtgat | ttcagtttaa  | 1200 |
| aacttaaaat  | tagtactgtt | ttattgagag | aatttagtta | tattttaaat | cagaagtatg  | 1260 |
| ggtcagatca  | tgggacataa | cttcttagaa | tatatatata | catatgtaca | tattctcata  | 1320 |
| tgtaaagtca  | caaggttcat | ttatctttct | gaatcagtta | tcaaagataa | attggcaagt  | 1380 |
| cagtacttaa  | gaaaaaagat | ttgattatca | tcacagcaga | aaaaagtcac | tgcatatctg  | 1440 |
| atcaataact  | tcagattcta | agagtggatt | tttttttttt | acatgggctc | ctattttttc  | 1500 |
| ccctactgtc  | ttgcattata | aaattagaag | tgtattttca | gtggaagaaa | cattttttcaa | 1560 |
| taaataaagt  | aaggcattgt | catcaatgaa | gtaattaaaa | ctgggacctg | atctatgata  | 1620 |
| cgcttttttt  | ctttcattac | accctagctg | aaggacatcc | agttccccag | ctgtagttat  | 1680 |
| gtatctgcct  | tcaagtctct | gacaaatgtg | ctgtgttagt | agagtttgat | ttgtatcata  | 1740 |
| tgataatcct  | gcacttgact | gagttgggac | aaggcttcac | ataaaaaatt | atttcttcac  | 1800 |
| ttttaacaca  | agttagaaat | tatatcccat | ttagttaaat | gcgtgattta | tattcagaac  | 1860 |
| aacctactat  | gtagcgttta | ttttactgaa | tgtggagatt | taaacactga | ggtttctgtt  | 1920 |
| caaactgtga  | gttctgttct | ttgtgagaaa | ttttacatat | attggaagtg | aaaatatgtt  | 1980 |
| ctgagtaaac  | aaatattgct | atgggagtta | tc         |            |             | 2012 |

&lt;210&gt; 2913

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(382)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2913

|             |            |            |            |            |            |     |
|-------------|------------|------------|------------|------------|------------|-----|
| cagccatggt  | ctaagccggg | cgcttcacct | gtcagccgca | ccggctccag | cgctcgctc  | 60  |
| tcgcccttgc  | ttctccagcg | ctccttgctc | gcaaggcggg | ggaggcggcg | gccagccac  | 120 |
| gatgatacat  | ttcatattgc | tcttcagtcg | acaaggga   | ttacggctac | agaaatggta | 180 |
| catcactctc  | cctgataaag | agaggaagaa | gatcaccg   | gaaattgttc | agattattct | 240 |
| ctcccgtggt  | cacaggacaa | gcagttttgt | tgactggaag | gagctaaaac | ttgtttataa | 300 |
| aaggatatgct | agtttatatt | tttgctgtgc | aatagaaaaa | tcaggacaat | gagctcttga | 360 |
| cgctagagaa  | tgtgcatcgt | tn         |            |            |            | 382 |

&lt;210&gt; 2914

&lt;211&gt; 1855

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2914

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gggcaaagat | aaatagagtc | acaaaaaaca | gaacattgat | ggccacaaca | gcaacctggt | 60  |
| caatatttcc | ttggggaacc | tgagcttcat | ctgtacttgc | ttcttcaaaa | ttaatacttt | 120 |
| tacactgtct | tcctgagtca | tccacacgat | gttctcttag | tatggcaagg | atcagaataa | 180 |
| tattttaaat | tcccaggaag | gcgctaagta | aaactggtgt | tgtatacatg | tttatctgca | 240 |
| gtttaatcac | atcccatgtc | acaccttttt | ctccaaggaa | tgtaaaacaa | gtctgaaaaa | 300 |
| ctgctccaat | tcccaacaat | ccacgagcaa | ccagcatgta | gtatttatta | tgagaagctg | 360 |
| ggatgtggag | atatgcatag | aggcagttgg | ctgccacgga | aatcaagatg | gagacaataa | 420 |

|             |             |             |            |            |            |      |
|-------------|-------------|-------------|------------|------------|------------|------|
| gaggctcttt  | tcttgggtcta | taattagacc  | ataaaccaaa | tataggtgaa | gctaccattt | 480  |
| ggccaagact  | atatgaagca  | ataaccacgc  | ccaaaaaact | tgtatcagct | gtcggatcaa | 540  |
| tcttttgag   | atatggccat  | atggacatca  | tcactacaga | aaaccctaca | ctgctgagaa | 600  |
| acatagtaag  | atataaaatc  | ctaatagatc  | tccatcggct | cttataatgc | tcttcagtct | 660  |
| ctaaaatgtc  | ccattctctg  | cttccagggtg | tgtcgcctaa | gagcggctcc | tgttcacttt | 720  |
| cgttccgcag  | gccggccata  | gttacactcc  | ctacaaggcg | tcttgcgccc | aactctcgcg | 780  |
| acacctgctt  | tctcccatcc  | cgggtggcgt  | gaagctggca | aaacaagcct | gtaagtgcgc | 840  |
| gtgcgcacct  | gacggtcaga  | cgtaggcgga  | acgccccgag | gtcataggcg | gggtcacgcg | 900  |
| gaaggccggg  | cagcgcaggg  | cgaaaggagg  | ctgtgtcctc | agcctcctcc | ctcggcacgc | 960  |
| gcctcccac   | ctgacgggga  | ctgagagccc  | aggagagctc | ggggcggtgc | caaactgccg | 1020 |
| cgcgcacctg  | ctccgggttt  | gtcttcctcc  | ctccgtttct | ccttccgctg | tatctagcat | 1080 |
| ttcgggtcct  | ggaaagggtta | ccggagctgc  | gattggggct | gggaccaaag | ttgagtcctg | 1140 |
| gaaagggagc  | ctggagagcg  | gcggtgctgg  | gaggccccgc | cagctcgatc | gcaggcttcc | 1200 |
| acctggcggc  | caatgcttgt  | ttgctactga  | tgggtgtgag | caagttagat | attctatacc | 1260 |
| ggagacttct  | cctaacaaaa  | ctttttatca  | gaggatgggg | aaggccagaa | gatctcaaaa | 1320 |
| gactctttga  | attcagaaag  | atgattggaa  | atcgggaaag | atgccagaat | ctggtttcaa | 1380 |
| gcgattatcc  | agtacacatt  | gataagattg  | aagagcaatc | agattgtaag | atcttagatg | 1440 |
| gacactttgt  | ttcccccatg  | gctcactatg  | tgcctgatat | catgccaat  | gaatctgtta | 1500 |
| ttgcaagggt  | ccaatttatt  | gtgcctaaag  | aatggaacag | caaatataga | cctgtatgca | 1560 |
| ttcatcttgc  | tggaaacagga | gatcatcatt  | actggaggcg | acgaacacta | atggcccgtc | 1620 |
| ctatgattaa  | agaagcccga  | atggcttctt  | tattgttaga | aaacccttat | tgatgacgtc | 1680 |
| agactattca  | cagaagaaga  | aatgaaactg  | gtgcacagat | ataaagaaat | gttcaacggt | 1740 |
| gctggttaata | aatgtagagt  | taaaacaaca  | atgatcaaat | atttaaaaaa | aaacagtact | 1800 |
| ggtgaggctg  | ctttgaaatg  | ggcactcttg  | ttactaatga | ctgaaaatta | gttca      | 1855 |

&lt;210&gt; 2915

&lt;211&gt; 718

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2915

|             |            |            |            |             |             |     |
|-------------|------------|------------|------------|-------------|-------------|-----|
| aggggtgtgaa | gcgtgtgctt | tagtttcgtg | ggaggcctgg | catccccgag  | agggagggga  | 60  |
| aaggtaacca  | ctcctttgtg | gaggtcgcca | gggtcattgt | cgtggatttg  | cacagtcggc  | 120 |
| tgggcggtgc  | aatggcggaa | agaaaaggaa | cagccaaagt | ggactttttg  | aagaagattg  | 180 |
| agaaagaaat  | ccaacagaaa | tgggatactg | agagagtgtt | tgaggatcaat | gcatctaatt  | 240 |
| tagagaaaca  | gaccagcaag | ggcaagtatt | ttgtaacctt | cccatatcca  | tatatgaatg  | 300 |
| gacgccttca  | tttgggacac | acgttttctt | tatccaaatg | tgagtttgct  | gtagggtacc  | 360 |
| agcgattgaa  | aggaaaatgt | tgtctgtttc | cctttggcct | gcactgtact  | ggaatgccta  | 420 |
| ttaaggcatg  | tgctgataag | ttgaaaagag | aaatagagct | gtatgttgcc  | cccctgattt  | 480 |
| tccagatgaa  | gaagaggaag | aggaagaaac | cagtgttaaa | acagaagata  | taataattaa  | 540 |
| ggataaagct  | aaaggaaaaa | agagtaaagc | tgctgtaaag | ctggatcttc  | taaataaccag | 600 |
| tggggcatta  | tgaaatccct | tggcctgtct | gatgaagaga | tagtaaaaatt | ttctgaagca  | 660 |
| gaacattggc  | ttgattattt | caacgcactg | gctattcagg | atttaaaaag  | aatggggt    | 718 |

&lt;210&gt; 2916

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2916

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| tttcgtgcga | ctctcggtcg | tgcagcggcg  | gcgagcgtc  | tgcagcggct | gcgggacgcg | 60  |
| aggtttccgg | agctgagctc | aatgtgcagc  | aatggatgac | gacagcctgg | atgagctgtg | 120 |
| gcccgagacc | cagggccgga | tggacacca   | caggtcggcc | ctgcggaccc | ggcaggtgac | 180 |
| tttgaagaaa | gcagcgtggg | cagcagtggtg | gactctgggg | acgacagtga | cagcgagcat | 240 |
| ggagatggca | cagacggaga | agacgagggg  | gcgtctgagg | aggaagacct | ggaagacaga | 300 |
| tctggttccg | aggattctga | agacgacggg  | gagacattgc | tggaggtagc | gggtactcag | 360 |
| gggaaaactg | aagccgctg  |             |            |            |            | 379 |



<210> 2917  
 <211> 1053  
 <212> DNA  
 <213> Homo sapiens

<400> 2917

|             |             |             |             |             |             |      |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| gtaaaggctt  | tgatgagagg  | agctctggct  | tttgetcagg  | gcctttggca  | ccccaccctc  | 60   |
| cagccccag   | gaatgcaggc  | gctcaaagcc  | tgtggctagg  | ctgcccgaag  | cgcgtagccgc | 120  |
| agttcttctg  | gagtgggagc  | agggggacag  | agctttgggt  | agaggagggt  | cacctgcaaa  | 180  |
| gctggaatgc  | caggggagtg  | ggcgggtgct  | ccagctcctg  | ggggccaggg  | tgtctccata  | 240  |
| cctcatgggc  | ctgagcctgg  | gcaggggtct  | ggagtgcaca  | tagccccag   | gcagggagag  | 300  |
| ggcagtgaca  | ggacagagcc  | actcatctgt  | cccaaagctg  | caccaagggt  | gtgtcagcaa  | 360  |
| ccccaaccta  | ctgacctact  | ttgggaccac  | aggcccatct  | agtgc aaatg | aggcccagaa  | 420  |
| aggagaaatg  | ctttgctcaa  | cagccacagt  | aggctgacgt  | aacctatgta  | atgtagggtc  | 480  |
| agggtagggc  | tgagggatga  | gccagggtgt  | gggcagggtga | cacaccagggt | cccctcctgg  | 540  |
| cctctgcccc  | accagccct   | ctcctgcacg  | gctaccagaa  | gatgtccggg  | aagaacagac  | 600  |
| tagccctgag  | tagggagtgt  | ggtcagggtgc | agaggagggtc | aggggcccgg  | atcctggccc  | 660  |
| agaaacactc  | taaaacagaa  | tccgatcctg  | agatgatcca  | aatcaaacag  | aaacttgacg  | 720  |
| gaaatagtag  | agtctgaaaa  | tgatgcactc  | tgcgcacaca  | tatacaagac  | acacacacac  | 780  |
| acacgaatcc  | acgcacacga  | ggcacacccc  | actcatgctc  | tgggtctctg  | gttacacacc  | 840  |
| cacaccccc   | ctactcctgt  | attcagatgc  | cctccatggc  | ccacctccc   | accagcaga   | 900  |
| gcgccagagc  | ctgggtgccag | ggactcagtg  | ccgactgctg  | acgtgaagggt | tgtagaaagc  | 960  |
| ccagggtctca | gggacgtaga  | tgacacccgg  | gtacttcttc  | ctgagaacag  | ggtcattcca  | 1020 |
| cagccaggcg  | ccggcgggtgg | gtgcgacgga  | cac         |             |             | 1053 |

<210> 2918  
 <211> 1409  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(1409)  
 <223> n = a,t,c or g

<400> 2918

|            |            |             |             |             |             |      |
|------------|------------|-------------|-------------|-------------|-------------|------|
| tttttttttt | ttaccgtcct | cacactttat  | tgttagctgt  | tctttaagtt  | tctcacacat  | 60   |
| tattggcaat | tatgtaaaaa | tcaagaacct  | ctataaaaca  | acctggcttt  | ccagggtggaa | 120  |
| ttccgcatac | agccaaaact | ggattccagt  | gtggccagac  | aacgcccattg | tcccaattta  | 180  |
| agagtcgctg | tcctcaccac | catccggagt  | ggcctctctg  | tcagtgtgtg  | atgtggccag  | 240  |
| ggcagtgctc | acctgaactt | cctcctcctc  | ggactgaaca  | acgggggact  | ccccaccctc  | 300  |
| actgatgtcc | cgggtggccg | agtcgggtgca | ggtggaggaa  | gaagaagggtg | gcttggctct  | 360  |
| taattctgag | ggatttgga  | cctggagggt  | aatctcattc  | tgacagggtac | tggattcagg  | 420  |
| ccctaaggcg | ggggacagca | cagtgttctc  | ttctcctcca  | gagttcagga  | agacgtccag  | 480  |
| ggcctcctgg | tccgatatgt | ccatcaggtc  | catctgctcc  | agcatgtcca  | cgttcacttc  | 540  |
| catggatgac | atgctgccta | tgggtctctg  | ccgctctgca  | atctgcagggt | agccagtggg  | 600  |
| caggtagctc | tccatgtcct | gctggaaggc  | ttcctcaaaa  | aacttctgct  | gctccttcag  | 660  |
| cttcatttgc | tgggtgtgct | ccatttccag  | gaccttctgg  | gcgtgctctg  | catctagttc  | 720  |
| agctttgaag | gtttcaagtt | ccttcctctt  | atttttcttg  | taattctcca  | gttgctggga  | 780  |
| ctgcatatgt | ttgcatcttt | ctaattcaca  | ctgcccacat  | aagtcttcca  | gatgcagcag  | 840  |
| gttggtctct | acctcctcaa | aactcgctc   | taaatgagtc  | agatttgctg  | tcatggattc  | 900  |
| taagtctgcg | attaaagctg | ggagctgctg  | gagctgctct  | tgcagctcca  | cgaggcttgt  | 960  |
| ctttttcttc | tcccagtgcg | cagaaagcat  | gaccacctcg  | ctatccacca  | gctctccagc  | 1020 |
| acttgcacag | tctttggctc | ttctgtgaag  | tgcagcccat  | gtatcctcat  | acctgctaag  | 1080 |
| taattcta   | ccagcagagt | actttggcaa  | aaatgggaaca | gtcctgggtt  | tgcttttcac  | 1140 |
| ttttgcttct | cttgacttgt | cacttaaagt  | cttcagcccg  | gaggtgaaat  | cctgctgcac  | 1200 |
| gctcagcagc | cgctcgcgaa | gggtctccag  | cattgccgcc  | gccgccgggtc | tcctctcttc  | 1260 |
| aggcctcggg | ctgctgctgc | ctctgtcgcc  | ccctgggtcc  | cacgccgcca  | accccgcgct  | 1320 |

gtcaccgcgc gccccgcaact cccactaccg gccccgcccc cgggtgtggtc ctgcgcgcgc 1380  
ccctcgtacn aagcaggggg taagccgg 1409

<210> 2919  
<211> 396  
<212> DNA  
<213> Homo sapiens

<400> 2919  
tttcggcgag ccactaccat tctgctgaga aggaaaagtt cgctttttct ttaagagatt 60  
aaaacaatat gcgcaatcct cacctctcta gcaatcacta tttaaactctg gcaagaactg 120  
aaacagtctt tgcaagaatg gaatccgtaa aacaaaggat tttggcccca ggaaaagagg 180  
ggctaaagaa ttttgctgga aaatcactcg gccagatcta cagggtgctg gagaagaagc 240  
aagacaccgg ggagacaatc gagctgacgg aggatgggaa gccctatag gtgcccgaga 300  
ggaaggcgcc gctgtgcgac tgcacgtgct tcggcctgcc ccgcgcgtac attatcgcca 360  
tcatgagcgg cctgggcttc tgcactctct tcggtc 396

<210> 2920  
<211> 1077  
<212> DNA  
<213> Homo sapiens

<400> 2920  
taaagattta attctccata tgagtaagtt agcgtgtatc atcagaaact atctagaact 60  
gtgtgcacag actgctactg gttttccaag ttgaatatac ttgagtatct taaaatattt 120  
catcaacttt ctaaaacatc aagaaaagct ctctatacaa ataccatggc cgattataat 180  
tattttgttt tccatccttt taaaaatatt ttctgctttg catcccatta ttattttgag 240  
tatcttttca ttgcgagttt gatgttcatt gcgttggctt acagctaaca ttcatttcat 300  
acgtttttgat gcttagctga aaaattacaa taaattctcc aatgaaatta tgtatcttta 360  
tttaatgaaa atgcctgctg cgtaccaagg tatgtactag ggcactctggg gtaagtaaaa 420  
acaaacacat agagcctgcc tggagaagct catggtctga tggaaagata agcaagaaga 480  
gttaattttc aatcaatatg ataaaaaggt cagagagcag tttctgaaaa acatgttttt 540  
gagttgagtc ctgaaagaca aggagatggt agtaaagcag agaagggaga attcattcta 600  
gaaagatcag acagtgtgtg ggaagggcag agtctgaaaa gagcatgccc catttggaga 660  
agcatcaaga agcccacgtg ttagaagcac cggcccatg agacaaagac acagctagag 720  
agattgacta ggccatgtcg gaatgtcctc ttattttata catacataag catatagata 780  
catatagcca aagttacctt tttaatgate ttttttacct agtgtattct ggaggtcgaa 840  
tggtcacata tgaacatctc cgagagggtg tgtttgga aagtgaagat gagcattatc 900  
ccctttggta agttttgttt ggaaaataat atgctgttgc cccaaatgcc ttaatgttta 960  
ttaggtttat gtaaaattgt acatttgtac ccaaattgcc ttaagttatg gacttaaaat 1020  
aataattaca atataagtcc agataattga gcatttactg cagatgtata cagacat 1077

<210> 2921  
<211> 910  
<212> DNA  
<213> Homo sapiens

<400> 2921  
ctgcgctact gccggagcgg ggccggttatg gcggctccat attaacagcc tctcctcct 60  
ccgcgcgcgc cgccgtctcc tctcctcct cctttccctc ccgcgcgcgc tctaagccat 120  
ctccgccttc accctgacgc ctgcctcttc ccctcactt tccccctccc ctgttctacc 180  
atgcccggca tgatggagaa agggcccgag ttactgggga agaaccgatc ggccaacggc 240  
agcgccaaga gcccggcagg cggcggcggc agcggcgcct cgtccaccaa cggcgggctg 300  
cactactcag agcccgagag cggctgcagc agcgacgacg agcacgatgt tgggatgaga 360  
gtcggagccg aataccaagc tcggatccct gaatttgatc cagggtgctac aaagtacaca 420

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gataaagaca | atggagggat | gcttgtatgg | tctccatata | acagtatccc | agatgccaaa | 480 |
| ttggatgaat | acattgcaat | tgcaaaggaa | aagcatggct | acaatgtgga | acaggcactt | 540 |
| ggcatgttgt | tctggcataa | acataacatt | gagaagtccc | ttgctgatct | ccctaatttc | 600 |
| actcccttcc | cggatgagtg | gacagtggaa | gataaagtcc | tatttgaaca | agcctttagt | 660 |
| tttcatggaa | agagctttca | caggattcag | caaatgcttc | cagataagac | aattgcaagc | 720 |
| cttgtaaaat | attactattc | ttggaaaaaa | actcgctcta | ggacaagttt | gatggatcgc | 780 |
| caggctcgta | aactagctaa | tagacataat | cagggtgaca | gtgatgatga | tgtagaagaa | 840 |
| acacatccaa | tggatgggaa | tgatagtgat | tatgatccca | aaaaagaagc | caaaaaagag | 900 |
| ggaatgtctt |            |            |            |            |            | 910 |

<210> 2922  
 <211> 513  
 <212> DNA  
 <213> Homo sapiens

|            |            |             |             |            |             |     |
|------------|------------|-------------|-------------|------------|-------------|-----|
| <400> 2922 |            |             |             |            |             |     |
| gaaagtctgt | aactgctgca | gccaggaatt  | agaaacttct  | tttacctatg | tggaacaaaa  | 60  |
| catcaacttg | gagcagcgga | accggagctc  | gccatcagca  | aaagggcata | atcacccctgg | 120 |
| ggagcttggc | tgggaaaatc | caaatgagtg  | gtcccaagag  | gctgccatat | ctttgatata  | 180 |
| tgaagaggag | gatgatacaa | gttcagaagc  | cacgtcttca  | gggaagtcta | tagactatgg  | 240 |
| tttcatcagc | gccatcttgt | tcttggtcac  | tgggatcctg  | ctcgtgatca | tctcttacat  | 300 |
| cgtcccacgg | gaagtgactg | tggaccccaa  | cactgtggca  | gcccgggaga | tggagcgccct | 360 |
| ggagaaggag | agtgcgaggc | tgggggctca  | cctggaccgc  | tgtgtgattg | cggggctctg  | 420 |
| cctcctcagc | ctggggggcg | tcattcctgtc | ctgcttggtta | atgatgtcca | tgtggaaggg  | 480 |
| ggagctctat | cgtcgaaaca | gatttgcctc  | ttc         |            |             | 513 |

<210> 2923  
 <211> 412  
 <212> DNA  
 <213> Homo sapiens

|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 2923 |             |            |            |            |            |     |
| gtcatcgccc | ccgactgtgg  | agaagtgtcc | ggggtagccc | cgttacagga | atgtgtttct | 60  |
| gatcatctga | atcttaatac  | tgtccaactg | cctgcaaaat | ttcctgaaaa | ttacaagcac | 120 |
| tcgtcttcta | tgttcaagat  | tatgccaaac | gttaagaagt | aaaaggaagt | ttttcggaac | 180 |
| tgtgccaata | tccagattgc  | ataggcgagt | tgtcattaca | ggcattggct | tagtgactcc | 240 |
| tcttggtgtt | ggaactcacc  | tggtttgagg | tcgtcttata | ggaggagaga | gtggaattgt | 300 |
| ttcactgggt | ggtgaagagt  | ataagagtat | cccttgcaat | gttgctgctt | atgtgccaag | 360 |
| aggtagtgat | gaagggtcagt | tcaatgaaca | aaactttgtg | tcctaatcag | at         | 412 |

<210> 2924  
 <211> 746  
 <212> DNA  
 <213> Homo sapiens

|             |             |             |             |             |            |     |
|-------------|-------------|-------------|-------------|-------------|------------|-----|
| <400> 2924  |             |             |             |             |            |     |
| gtaaccactg  | tgtagtaatt  | cctttaactc  | ggaactctgc  | tgggggtggcc | cttgacccta | 60  |
| tcctaagaac  | ctttaactcg  | gaactctgtt  | gggggtggagg | gccccctctt  | tcagccggtg | 120 |
| tcttgccctc  | cattctccct  | tcattcctgt  | caacaccccg  | aagctgggtga | aaacagcaga | 180 |
| gctgcccccg  | gatcggaact  | acgtgctggg  | cgccccacct  | catgggatca  | tgtgtacagg | 240 |
| cttcctctgt  | aattttctcca | ccgagagcaa  | tggcttctcc  | cagctcttcc  | cggggctccg | 300 |
| gccctgggtta | gccgtgctgg  | ctggcctctt  | ctacctcccg  | gtctatcgcg  | actacatcat | 360 |
| gtcctttgga  | ctctgtccgg  | tgagccgcca  | gagcctggac  | ttcattcctgt | cccagcccca | 420 |
| gctcggggcag | gccgtgggtca | tcattggtggg | gggtgcgcac  | gaggccctgt  | attcagtcct | 480 |
| cggggagcac  | tgccttacgc  | tccagaagcg  | caaaggcttc  | gtgcgcctgg  | cgctgaggca | 540 |

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| cgggggtcc  | ctgggtgccc | tgtactcctt | tggggagaat | gacatcttta | gacttaaggg | 600 |
| ttttgccaca | ggctcctggc | agcattgggt | ccagctcacc | ttcaagaagc | tcatgggctt | 660 |
| ctctccttgc | atcttctggg | gtcgcgggtc | cttctcagcc | acctcctggg | gcctgctgcc | 720 |
| ctttgctgtg | cccatcacca | ctgtgg     |            |            |            | 746 |

<210> 2925  
 <211> 793  
 <212> DNA  
 <213> Homo sapiens

<400> 2925

|             |            |            |            |            |             |     |
|-------------|------------|------------|------------|------------|-------------|-----|
| tttcgtgcgg  | cggggcggcc | ggcggcggcc | atgggagata | tcccagttgt | gggcctcagc  | 60  |
| tcctggaagg  | cttctccagg | gaaagtgacc | gaggcagtga | aagaggccat | tgacgcaggg  | 120 |
| taccggcact  | tcgactgtgc | ttacttttac | cacaatgaga | gggaggttgg | agcagggatc  | 180 |
| cgttgcaaga  | tcaaggaagg | cgctgtaaga | cgggaggatc | tgctcattgc | cactaagctg  | 240 |
| tgggtgcacct | gccataagaa | gtccttggtg | gaaacagcat | gcagaaagag | tctcaaggcc  | 300 |
| ttgaagctga  | actatttgga | cctctacctc | atacactggc | ccatgggttt | caagcctcct  | 360 |
| catccagaat  | ggatcatgag | ctgcagtga  | ctttccttct | gcctctcaca | tcctcgagtg  | 420 |
| caggacttgc  | ctctggacga | gagcaacatg | gttattccca | gtgacacgga | cttcctggac  | 480 |
| acgtgggagg  | ccatggagga | cctggtgatc | accgggctgg | tgaagaacat | cggggtgtca  | 540 |
| aacttcaacc  | atgaacagct | tgagaggctt | ttgaataagc | ctgggttgag | gttcaagcca  | 600 |
| ctaaccaacc  | agattgagtg | ccaccatat  | cttactcaga | agaatctgat | cagtttttgc  | 660 |
| caatccagag  | atgtgtccgt | gactgcttac | cgctcctctg | gtggctcgtg | tgaggggggtt | 720 |
| gacctgatag  | acaaccctgt | gatcaagagg | attgcaaagg | agcacggcaa | gtctcctgct  | 780 |
| cagattttga  | tcc        |            |            |            |             | 793 |

<210> 2926  
 <211> 705  
 <212> DNA  
 <213> Homo sapiens

<400> 2926

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| ggcattgggc | ctggaacccc | gggtcgacga | tttcgtctga | gagggacgcg | tgccgcggag | 60  |
| ccaggcttac | tacgtgaccc | ggacaccagg | catacgctag | gggcagtcag | ctgtgccttc | 120 |
| tctttcggag | ttgttccgtg | ctcccacgtg | cttccccttc | tcactggct  | gggatcccc  | 180 |
| gggctcgggg | cgcagtaata | atttttcacc | atgcategga | aaaagggtga | taaccgaatc | 240 |
| cggattctca | ttgagaatgg | agtagctgag | cggcaaagat | ctctctttgt | tgtagttggg | 300 |
| gatcgaggaa | aagatcaggt | ggtaataact | catcacatgt | tatccaaagc | aactgtgaag | 360 |
| gctcggcctt | cagtgtctgt | gtgttataag | aaagagctgg | ggtttagcag | tcaccggaag | 420 |
| aaaagaatgc | gacagctgca | gaagaaaata | aagaatggaa | cactgaacat | aaagcaggac | 480 |
| gacccctttg | aactcttcat | agcagccaca | aacattcgct | actgctacta | caacgagacc | 540 |
| cacaagatcc | tgggcaatac | cttcggcatg | tgtgtgctgc | aggattttga | agccttaact | 600 |
| ccaaacttgc | tggccaggac | tgtagaaaca | gtggaagggt | gtgggctagt | ggtcatcctc | 660 |
| ctacggacca | tgaactcact | caagcaattg | tacacagtga | ctatg      |            | 705 |

<210> 2927  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 2927

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| atgcggggcg | gggagcgcgg | gcggccgggg | agggcggcgg | cccccttaag | agcaggccac | 60  |
| gccccctccc | ctcctcccgt | tcgctgccag | cggtcgggtg | cggccgctac | ggtgctgaca | 120 |
| agatggcggc | tggcggagct | gtcgtgcgg  | cgcccgagtg | cggtcttctc | ccctacgcgc | 180 |
| tacacaagtg | gagctccttt | tcctccacct | accttcccga | gaacatttta | gtggacaaac | 240 |



|            |             |            |            |            |            |     |
|------------|-------------|------------|------------|------------|------------|-----|
| caaatgacca | atcttcaaga  | tggtcttcag | agagcaacta | tcctccccag | tacttgattc | 300 |
| taaagctcga | aaggcctgct  | atagttcaga | atatcacatt | tggaataat  | gagaaaactc | 360 |
| atgtttgcaa | tttgaagaaa  | tttaaagtct | ttggtggaat | gaatgaagaa | aatatgacag | 420 |
| agctgttgte | cagtggctta  | aagaatgatt | ataacaaaga | aacattcacc | ttgaagcata | 480 |
| aaattgatga | acagatgttc  | ccttgctgat | tcattaaaat | agttccactc | ttgtcctggg | 540 |
| gaccagctt  | taacttttagc | atctggtatg | ttgaacttag | tggcattgat | gatcctgata | 600 |
| tagtacaacc | ttgtctcaac  | tggtatagca | agtaccgtga | acaggaagct | attcgctttt | 660 |
| gcctaaaaca | cttcagacaa  | cacaactata | cagaagcttt | tgagtcactg | caaaagaaaa | 720 |
| cct        |             |            |            |            |            | 723 |

<210> 2928  
<211> 637  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(637)  
<223> n = a,t,c or g

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 2928 |            |            |            |            |            |     |
| tttcgagaag | aaacagctcc | gccgtccttc | gctttttttg | ctgggctgct | gctccttcgg | 60  |
| catcatggcg | ccgtcgctgt | ggaaggggct | ggagggcatc | ggtctctttg | ccctagccca | 120 |
| cgccgccttt | tccgtgcgc  | agcatcgctc | ttatatgoga | ttaacagaaa | aagaagatga | 180 |
| atcactgcca | atagatatag | ttcttcagac | acttctggcc | tttgagttta | cctgttacgg | 240 |
| tatagtccat | attgcaggag | agtttaaaga | catggatgcc | acttcagAAC | tgaaaaataa | 300 |
| gacatttgat | acggtaagga | atcaccatc  | cttttatgta | tttaatcatc | gtgggtccga | 360 |
| gtacttttcc | ggcccttcgg | atacagcaaa | ttcttcaaac | caagatgcat | tgctctctaa | 420 |
| cacatcattg | aagttacgaa | aactcgaatc | actgcgtcgt | taagattttt | acaaattata | 480 |
| ataataggac | aggacacaga | gctggaatat | tggagtgttg | ggtataaaac | actcctccct | 540 |
| gccccatta  | gtatttatat | tgatctttca | gacctacttt | agtaaaaaaa | accatggccc | 600 |
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| gtaggagcgc | cactgcttca | ggtagaaggc | gccgccacc  | gtgtgaccg  | tgtccgggaa | 120 |
| gcgcgcctcc | atataccgct | gcagcagcga | cgtcttcccc | acgttcatgt | ccccaggag  | 180 |
| caagatcttg | ctgtcgggct | tcctcatctt | cccgtaaaga | ccccagcgc  | ccccgcgcc  | 240 |
| tctccccgag | gctggccggc | tcgtgcgcgc | tgggcgcagc | tggaggagcg | gaccccgga  | 300 |
| tcgcggggac | ccgattctc  | gtgaacgctc | cgggaccttc | gcctccggac | gcccgggagc | 360 |
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| atggaaggga  | gaggcagagc | ctctagctcc  | atttcagacc | tgcaaggaaa | gggctttgag  | 180  |
| aagggaactg  | gggagaagca | cgttccaggt  | gtgggttcag | ctcggcactc | gccacaggcc  | 240  |
| tccgcagggtg | gctctccttg | gcagcgaggc  | aaggcgcaaa | cccgtgggt  | tgggaagcct  | 300  |
| gaccctggca  | ggaagcgacg | ccggggttct  | ccgcaagaag | aaggcggcct | ccgggtgtcg  | 360  |
| gccgcagcca  | ggctactgtg | ctccggggca  | aaccgctgca | aagtcctagt | gaggcagAAC  | 420  |
| tcgaccccca  | acactcagca | gcctgccgtc  | cacccatcca | cacccccgtc | tcgccccctg  | 480  |
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| ccagtgtctct | gcttgggaca | gaaggacccg  | ggtgttgaag | gcaagcattg | tgaaaaggaa  | 780  |
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| gaacctgtat  | tagagactgc | ttcttcttca  | gcacatagta | cacagaagga | ttctagtcat  | 1920 |
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7545

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| aagtctaaat  | caaaaactca  | aggcaaacag  | gtaaaagtgt | tagaaacaga  | attacaagaa  | 1740 |
| ggtgccacaa  | aacaggcaac  | cactccaaaa  | ccagacaagg | agaagaacac  | agaagaaaat  | 1800 |
| gactcagaaa  | aacagcgtaa  | gtctaaagtt  | gaagacaaac | cttttgaaga  | aactgggtgt  | 1860 |
| gaacctgtat  | tagagactgc  | ttcttcttca  | gcacatagta | cacagaagga  | ttctagtcac  | 1920 |
| agagccaagt  | taccattagc  | aaaggagaaa  | tataagagtg | ataaagactc  | cacttccacc  | 1980 |
| aggcttgaga  | gaaagttgtc  | agatggccac  | aaaagcagaa | gcttaaagca  | tagtagtaaa  | 2040 |
| gacataaaaa  | agaaggacga  | aaataaatca  | gatgacaagg | atggtaaaga  | agttgacagt  | 2100 |
| agtcattgaaa | aggccagagg  | taatagttca  | ctcatggaaa | agaaattaag  | tagaagggtg  | 2160 |
| tgcgaaaatc  | ggagagggaag | cttgtcacia  | gaaatggcca | aaggagaaga  | aaaattagca  | 2220 |
| gcaaacactt  | tgagcactcc  | cagcgggttc  | tcccttcaga | gaccaaiaaaa | gagtgggtgat | 2280 |
| atgacattga  | tccctgaaca  | agagccaatg  | gaaattgatt | ctgagccagg  | tgttgaaaat  | 2340 |
| gtgtttgaag  | tatctaaaac  | ccaagacaac  | cgcaataata | attctcacca  | agacattgac  | 2400 |
| tctgaaaata  | tgaaacaaaa  | aacttctgcc  | actgttcaaa | aggatgaatt  | gagaacttgc  | 2460 |
| acagcagatt  | caaaagcaac  | agctccagct  | tataagccag | gccgtggaac  | aggagttaat  | 2520 |
| agtaattctg  | aaaagcatgc  | cgatcataga  | agcaccttga | ccaagaaaat  | gcatatacaa  | 2580 |
| agtgtgtgtg  | ccaaaatgaa  | ccctggggag  | aaagaaccca | ttcatagagg  | aactactgaa  | 2640 |
| gtgaatatag  | attctgaaac  | tgttcataga  | atgttactga | gtgccccatc  | agaaaatgat  | 2700 |
| agggtacaga  | agaatttgaa  | aaacacagct  | gctgaagaac | atgtttgctca | aggagatgcc  | 2760 |
| actcttgaac  | attccacaaa  | tttagactcc  | tcaccatcct | taagttcagt  | gactgttgtg  | 2820 |
| cctctgaggg  | aatcgtatga  | tccagatgta  | attcctctgt | ttgacaaaag  | aactgttttg  | 2880 |



|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| gaaggtagca | cagccagcac  | ctcccctgog  | gatcactctg  | ctctccctaa  | ccaaagtctg  | 2940 |
| actgttaggg | aatcagaagt  | ccttaagaca  | agtgcagca   | aagaagggtg  | tgaaggtttc  | 3000 |
| acagtagata | caccagcaaa  | agcaagcatc  | actagcaaaa  | gacacattcc  | agaagctcac  | 3060 |
| caggctactt | tattggatgg  | taaacaagga  | aaggtaatca  | tgcctcttgg  | aagtaagtta  | 3120 |
| acgggcgtga | ttgtggaaaa  | tgagaatatt  | accaaagaag  | gtggcttagt  | ggacatggcc  | 3180 |
| aagaaagaaa | atgacttaaa  | tgagagagccc | aatttaaagc  | agacaattaa  | agcaacagta  | 3240 |
| gagaatggca | agaaggatgg  | cattgctgtt  | gatcatgttg  | taggcctgaa  | tacagaaaaa  | 3300 |
| tatgctgaaa | ctgtcaaaact | taagcataaa  | agaagcccag  | gtaaagttaa  | agacatatca  | 3360 |
| attgatgttg | aaagaaggaa  | tgaaaacagt  | gaggtagaca  | ccagtgtctg  | aagtggctct  | 3420 |
| gcaccctctg | ttttacacca  | aaggaacgga  | caaactgagg  | atgtggcaac  | tgggcctagg  | 3480 |
| agagcagaaa | agacttctgt  | tgccactagt  | actgaaggga  | aggacaaaga  | tgtcacctta  | 3540 |
| agtcacgtga | aggctggggc  | tgccacaacc  | acttcttcag  | aaacaagaca  | aagtgaggtg  | 3600 |
| gctttgcctt | gcaccagcat  | tgaggcagat  | gaaggcctca  | taataggaac  | acattccaga  | 3660 |
| aataatcctc | ttcatgttgg  | tgagaaagcc  | agtgaatgca  | ctgtttttgc  | tgacagctgaa | 3720 |
| gaaggtgggg | ctgttgtcac  | agagggattt  | gctgaaagtg  | aaaccttcct  | cacaagcact  | 3780 |
| aaggaagggg | aaagtgggga  | gtgtgctgtg  | gctgaatctg  | aggacagagc  | agcagacctt  | 3840 |
| ctggctgtgc | atgcagttaa  | aatcgaagcc  | aatgtaaata  | gcgttgtgac  | agaggaaaag  | 3900 |
| gatgatgctg | taaccagtgc  | aggctctgaa  | gaaaaatgtg  | atggttcttt  | aagttagagac | 3960 |
| tcagaaatag | ttgaagggaac | tattactttt  | attagtgaag  | ttgaaagtga  | tggagcagtt  | 4020 |
| acaagtgtct | gaacagagat  | aagagcagga  | tctataagca  | gtgaagaggt  | ggatggctcc  | 4080 |
| cagggaataa | tgatgagaat  | gggtcccaaa  | aaagaaacag  | agggcactgt  | gacatgtaca  | 4140 |
| ggagcagaag | gcagaagtga  | taacttttgt  | atctgtctcag | taactggagc  | agggtccagg  | 4200 |
| gaggaacgca | tgggttacagg | tgaggtgtt   | gtcctgggag  | ataatgatgc  | accaccagga  | 4260 |
| acaagtgcc  | gccagaaggg  | agatggttct  | gtgaatgatg  | gtacagaagg  | tgagagtgc   | 4320 |
| gtcaccagca | cggggataac  | agaagatgga  | gaggggccag  | caagttgcac  | agggttcagaa | 4380 |
| gatagcagcg | aaggctttgc  | tataagtctt  | gaatcggaag  | aaaatggaga  | gagtgcattg  | 4440 |
| gacagcacag | tggtccaaaga | aggcactaat  | gtaccattag  | ttgctgctgg  | tccttgtgat  | 4500 |
| gatgaaggca | ttgtgactag  | cacaggcgca  | aaagaggaag  | acgaggaagg  | ggaggatgtt  | 4560 |
| gtgactagta | ctggaagagg  | aaatgaaatt  | gggcatgtct  | caacttgtac  | agggttagga  | 4620 |
| gaagaaagtg | aaggggtctt  | gatttgtgaa  | agtgcagaag  | gggacagtca  | gatttggtact | 4680 |
| gtggtagagc | atgtggaagc  | tgaggctgga  | gctgccatca  | tgaatgcaaa  | tgaaaataat  | 4740 |
| gttgacagca | tgagtggcac  | agagaaagga  | agtaaagaca  | cagatatctg  | ctccagtgc   | 4800 |
| aaagggattg | tagaaagcag  | tgtgaccagt  | gcagtctcag  | gaaaggatga  | agtgcacca   | 4860 |
| gttccaggag | gttgtgaggg  | tcctatgact  | agtgtgcat   | ctgatcaaag  | tgacagtcat  | 4920 |
| ctcgaaaaag | ttgaagatac  | cactatttcc  | actggcctgg  | tcgggggtag  | ttacgatgtt  | 4980 |
| cttgatctct | gtgaagtccc  | agaatgtgaa  | gttgctcaca  | catcaccaag  | tgaaaaagaa  | 5040 |
| gatgaggaca | tcacacctc   | tgtagaaaat  | gaagagtgtg  | atggtctcat  | ggcaactaca  | 5100 |
| gccagtgggt | atattacca   | ccagaatagc  | ttagcagggg  | gtaaaaatca  | aggcaaagtt  | 5160 |
| ttgattattt | ccaccagtac  | cacaaatgat  | tacacccctc  | aggtaagcgc  | aattacagat  | 5220 |
| gtggaaggag | gtctctcaga  | tgctctgaga  | actgaagaaa  | atatggaagg  | taccagagta  | 5280 |
| accacagaag | aatttgaggc  | ccccatgccc  | agtgcagtct  | caggagatga  | cagccaactc  | 5340 |
| actgccagca | gaagtgaaga  | gaaagatgag  | tgtgccatga  | tttccacaag  | cataggggaa  | 5400 |
| gaattcgaat | tgcttatctc  | cagtgcacaa  | accatcaagt  | gtgctgaaag  | tcttcagccg  | 5460 |
| gttgctgcag | cagtgggaaga | aagggctaca  | gggtccagtct | tgataagcac  | cgccgacttt  | 5520 |
| gaggggccta | tgcccagtgc  | gccccagaa   | gctgaaagtc  | ctcttgccct  | aaccagcaag  | 5580 |
| gaggagaagg | atgaatgtgc  | tctcatttcc  | actagcatag  | cagaagaatg  | tgaggcttct  | 5640 |
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| gacgggagtg | gcacatctc   | tacgagctcg  | gtggaagact  | gtgagggccc  | agtgtccagt  | 5760 |
| gctgtccctc | aagaggaagg  | cgacccctca  | gtcacaccag  | cggaagagat  | gggtgacacc  | 5820 |
| gccatgattt | ccacaagcac  | ctctgaaggg  | tgtgaagcag  | tcattgattg  | tgctgtcctc  | 5880 |
| caggatgaag | atcggtcac   | catcacaaag  | gtagaagact  | tgagcgatgc  | tgccatcatc  | 5940 |
| tccaccagca | cagcagaatg  | tatgccaat   | tccgccagca  | ttgacagaca  | tgaagagaat  | 6000 |
| cagctgactg | cagacaaccc  | agaagggaac  | ggtgacctgt  | cagccacaga  | agtgcagcaag | 6060 |
| cacaaggtcc | ccatgcccag  | cctaattgct  | gagaataact  | gtcgggtgtcc | tgggccaagt  | 6120 |
| aggggaggca | aagaaccggg  | tcccgtgttg  | gcagtgcagca | ccgaggaggg  | gcacaacggg  | 6180 |
| ccatcagtc  | acaagccctc  | tgaggggcaa  | ggccatccaa  | gtgctgtttg  | tgagggaaaa  | 6240 |
| gaagagaagc | atggcaagga  | gtgccccgaa  | ataggaccat  | ttgcagggaag | aggacagaaa  | 6300 |
| gagagcactt | tacacctcat  | aaatgcagaa  | gagaagaatg  | tattgttgaa  | ctcccttcag  | 6360 |
| aaagaagata | agagcccaga  | gacagggaca  | gcagggggca  | gtagcacagc  | aagttattca  | 6420 |
| gcaggaaggg | gcttagaggg  | gaatgctaac  | tcacctgccc  | acctgagagg  | accagaacag  | 6480 |
| acgtctgggc | agacgggcta  | ggattcctct  | gtcagcagca  | ttcgctatct  | ggcagcagta  | 6540 |
| aacaccgggt | ctataaaagc  | tgatgacatg  | ccacctgttc  | aagggaccgt  | ggctgagcat  | 6600 |
| tcctttcttc | ctgctgagca  | gcaggggtct  | gaagacaact  | tgaaaaccag  | taccacaaa   | 6660 |
| tgtattactg | gccaagaatc  | aaaaattgct  | ccttcccaca  | caatgatccc  | tccagctact  | 6720 |

|             |            |            |            |             |            |      |
|-------------|------------|------------|------------|-------------|------------|------|
| tacagtgtag  | ctctgttggc | tcctaaatgt | gagcaggact | tgactataaa  | gaatgattat | 6780 |
| agtggcaaat  | ggactgatca | agcatctgct | gagaaaacag | gagatgataa  | cagcacaagg | 6840 |
| aatcattcc   | ctgaggaagg | agacataatg | gttactgtgt | cttctgaaga  | aaatgtgtgt | 6900 |
| gacataggca  | atgaagagtc | tccattgaat | gttttgggag | gattgaaact  | gaaagccaac | 6960 |
| ttgaaaatgg  | aggcttatgt | gccttcagag | gaagagaaaa | atgggtgaaat | tctggcacca | 7020 |
| ccagaaagtc  | tgtgtggggg | aaagccaagt | ggaatagctg | aactccagag  | ggagcctttg | 7080 |
| ttgggtgaatg | aatcactaaa | tgttgaaaat | tcaggcttca | gaacaaatga  | agaaattcat | 7140 |
| agcgaatctt  | ataacaaagg | agagatatcc | agtggtagaa | aagacaacgc  | agaagccata | 7200 |
| agcggtcaca  | gtgttgaagc | agatcctaaa | gaggttgaag | aggaagaaag  | gcataatgct | 7260 |
| aaaagaaaaa  | gaaagcagca | ttatctctct | tcagaagatg | aaccagatga  | taatccagat | 7320 |
| gtcctggatt  | ccagaataga | aacagcacia | aggcagtgtc | ctgaaacgga  | gccacatgnc | 7380 |
| acaaaggaag  | agaactccag | agatttggaa | gaattaccta | aaaccagttc  | tgagacaaat | 7440 |
| agcactacct  | caagggcat  | ggaagaaaaa | gatgaatata | gcagcagtga  | aactactggt | 7500 |
| gaaaagccag  | agcagaacga | tgatgacacc | ataaaatctc | aggag       |            | 7545 |

&lt;210&gt; 2932

&lt;211&gt; 773

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2932

|             |             |             |            |            |            |     |
|-------------|-------------|-------------|------------|------------|------------|-----|
| tggcccccttc | ggcgtcctct  | ggcctctctgc | gaagcctggg | cccgttactg | cggttgaggc | 60  |
| caggccccca  | gacgcatacag | accctgaagg  | actgcggtgg | gggagccctg | caccgctcct | 120 |
| ggccccgggc  | cccctggatc  | cgctggggcg  | cctccacca  | gctgttagca | tgatgtctta | 180 |
| cctcaaacia  | ccccatacag  | gcataaacgg  | gctgggctg  | gccgggccc  | ccatggacct | 240 |
| cctgcacca   | tccgtgggct  | atccggccac  | tccggggaag | cagcgggcg  | agcgaccac  | 300 |
| cttcacgcgt  | tcacagctgg  | acgtgctcga  | ggcgctcttc | gccaagactc | gctacctga  | 360 |
| catcttcatg  | cgggaggagg  | tggcgctcaa  | gatcaacctg | ccggagtcta | gagtcaggt  | 420 |
| ctggttcaag  | aaccgcccgc  | ccaaatgccg  | ccagcagcag | cagagcgga  | gcggaaccaa | 480 |
| gagccgcca   | gccaagaaga  | agtcctctcc  | agtgcgggag | agctcgggct | ccgaaagcag | 540 |
| tggccaatc   | acgcccgcag  | ctgtgtccag  | ctctgcctcg | tcctctagct | cggcgtccag | 600 |
| ctcttccgc   | aaccagcgg   | ctgcagcggc  | tgccggacta | gttgttgcaa | agctgccctg | 660 |
| ccctcttca   | atcttctccc  | tctgtgtatt  | tattgaagag | aaccgcttgg | tttcaggaag | 720 |
| ctgggcgcgc  | gatatccgaa  | gtgtggagga  | aacagacaag | tcagggtaca | gag        | 773 |

&lt;210&gt; 2933

&lt;211&gt; 776

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2933

|            |            |            |             |            |            |     |
|------------|------------|------------|-------------|------------|------------|-----|
| ccggaatata | ccgggtcgac | gatttctgtc | tccgggtctg  | aggaggcttc | taaaagggcc | 60  |
| tcacatgcc  | cgggagccac | gtggatacag | aacgagggtt  | cccgtctca  | gagagttggt | 120 |
| ccccagttcc | catgcaggga | gtggagcctc | tgagcactgc  | cagaacaaca | ggcagggttc | 180 |
| tcgacagcac | agagcctcac | gcaatgtgca | ggcagggtgg  | gctctcgctc | caccacggca | 240 |
| cctctgcgg  | ctctgcagcc | gtttgcattt | cctgaaaccg  | gatcttagtg | tcagagccgc | 300 |
| ccccagccgg | gcgggcgcct | cagtcattgg | cctgcgcaag  | gaactgctca | agtccatctg | 360 |
| gtacgccttt | accgcgctgg | acgtggagaa | gagtggcaaa  | gtctccaagt | cccagctcag | 420 |
| ggtgctgtcc | cacaacctgt | acacggctct | gcacatcccc  | catgacccc  | tgccctgga  | 480 |
| ggaacacttt | cgagatgatg | atgacggccc | tgtgtccagc  | cagggatata | tgccctacct | 540 |
| caacaagtac | atcctggaca | aggtggagga | gggggctttt  | gttaaagagc | actttgatga | 600 |
| gctgtgctgg | acgctgacgg | ccaagaagaa | ctatcgggca  | gatagcaacg | ggaacagtat | 660 |
| gctctccaat | caggatgcct | tccgcctctg | gtgcctcttc  | aacttctctg | ctgaggacaa | 720 |
| gtaccctctg | atcatggatc | ctgatgaggg | ggaataacctg | ctgaaaagg  | actcag     | 776 |

&lt;210&gt; 2934

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 <213> Homo sapiens

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 ctgcagcagc tgtggaacgc catcctgctg gtggccatgc tcctgtgcac aggccctcgtg 120  
 gtccaggccc agcggcaggc gtgcggcag agccagcggg agctcggagg ccagggtggac 180  
 ctgtttaagc gccgcgtggg gcggagactg gcatccctca agacacggcg ctgccggctg 240  
 agcagggcag cgcagggcct cccagatccg ggtgctgaga cctgtgcggg gtgcctggac 300  
 tacttctgca acaaacagtg gctccgggtg ctgccctgta agcacgagtt tcaccgagac 360  
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 gggaaccgct actccgatga ttag 444

<210> 2935  
 <211> 426  
 <212> DNA  
 <213> Homo sapiens

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 aagaaggaca agcccctgga cctgcggcct aagaagacac gtgccatgcg ccgccggctc 120  
 aacatgcacg aggagaacct gaagaccaag aagcagcatc ggaaggagcg gctgtacctg 180  
 ctgcgggaagt acgcggccaa ggcctgaggg gcgcattggtc aataaagcac agctggctga 240  
 gaaagaaaag atatgatgca atgatctaaa accctggggg gcgtttttta tataaccgta 300  
 gggggggccga ctgttatttg gttaagcaaa ctattaattt tcttctttat taggcgacaa 360  
 ttaatacgtt gtaggtgact tctggaaagg actattaatt tgagtgggat aaaacatgga 420  
 gacaag 426

<210> 2936  
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 <212> DNA  
 <213> Homo sapiens

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 ttaggagcca ttctctgcct ttctttttca tggtctctcc acacagtcta ctgccactca 120  
 gaggggggtc ctgcgctctt ctctaaactg gattactctg gtattgctct tctgattatg 180  
 ggaagttttg ttcccttggt ttattattct ttctactgta atccacaacc ttgcttcate 240  
 tacttgattg tcatctgtgt gctgggcatt gcagccatta tagtctccca gtgggacatg 300  
 tttgccaccc ctacgtatcg gggagtaaga gcaggagtgt ttttgggcct aggccctgag 360  
 ggaatcatte ctaccttgca ctatgtcatc tcggaggggg tccttaaggc cgccaccata 420  
 gggcagatag gctggttgat gctgatggcc agcctctaca tcacaggagc tgccctgtat 480  
 gctgcccgga tccccgaacg ctttttccct ggcaaagtgt acatctgggt tcactctcat 540  
 cagctgtttc atatctttgt ggttgctgga gcttttgttc acttccatgg tgtctcaaac 600  
 ctccaggagt ttcgtttcat gatcggcggg ggctgcagtg aagaggatgc actgtgatac 660  
 ctaccagtct ccagggacta tgaccctaaa ccagggcctg cggcacttgc ggggcctccc 720  
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 ttgtgacggc ccaggggctc tgcgtggtac atgactgaga agagaaaaac aaaaataaat 840  
 catacctcaa aggatggagt gcatcaattg ggagaaaagg agacatagcc caaacctgg 900  
 cttattcttg ggatctactg attgcgggct ctgcaagacc cttggcaaac tggcttctga 960  
 tccatatcat atttatttgt agaagatggc gaaacagttt agctgggtgg tctttctctt 1020  
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 aaaaaa 1086

<210> 2937  
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 <212> DNA  
 <213> Homo sapiens

<400> 2937

|             |            |            |             |            |            |      |
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| gaggtccagg  | ttctaccccg | acccacatcc | cctgaatcag  | agcagctttt | tttttttttt | 120  |
| aaaaattttg  | atctgtttca | cacattatat | ttgtttgaac  | ttcccatgtt | taaaaatttt | 180  |
| gaagaaaatc  | cctggagtag | acaatcccta | gagcactgac  | atgctgtggt | ccaaggttca | 240  |
| ccaggaacag  | tgcctgtgcc | ctgccacatg | gcgggggttc  | ttcaagcctc | tggatgatga | 300  |
| ggtgctcagg  | gaaaggagga | cggaggggag | cgggaaggacc | cagccactgc | tggccaccct | 360  |
| ggcctctgct  | ctgtgttcac | gggggagcag | actctgggga  | ggcgcccttc | ctcaccacgg | 420  |
| cctgcaggcc  | gggctggagc | ctgcgccttc | aggggccttg  | catctccagc | tggacccctt | 480  |
| ggcacaggat  | gtgctgcagt | agcccgttga | ccacatccag  | agtctcgtcc | ttctccagca | 540  |
| cgatgtcata  | ggagtccatg | tagcgctccc | gccgctcctc  | caccttgtea | ttcaggaagc | 600  |
| caattttgag  | aatgttctgc | acaccaggaa | ccccatcggc  | catggtgagg | tccccgatag | 660  |
| agtctcccag  | caggatgaca | ttggttttgc | cctcaagttg  | ctggaagtaa | ccacagttct | 720  |
| cacacgcaga  | gctgttcttg | ttgtatgtgt | gtatgagctg  | gcccttaaat | ccctggagaa | 780  |
| aaccatcttc  | attaaaatcc | atgtagttag | acacgatgtg  | gatgttgggg | tggaaacttt | 840  |
| tcattctgtc  | gataattttt | tccaggatat | caccaatgcc  | cgcagaaaag | atgaaaaggg | 900  |
| gaatgttggt  | atggtagagt | gtgttgaaga | aggtcttata  | tccctccctg | agcattgcat | 960  |
| tggactctct  | aaccacctgg | gctatctgaa | acttctgaat  | cttctgctga | cataggagat | 1020 |
| tgtgcgcttt  | ggtccaccat | tccaccatat | gaggtagctt  | ctccttgacg | gtccggtgtg | 1080 |
| ggtcgatctc  | aattgggtaa | tagtggtgaa | ggagcgctgt  | gagctctttc | cgacactcct | 1140 |
| cactgatgat  | cttgcattta | tccagaatat | tgtagaaga   | agggcatcgc | tttccattat | 1200 |
| atgcaaacct  | gctcaagggt | atgtcaaaat | cagaaatcac  | ctgtaaccgg | tctccgccgc | 1260 |
| ccttgccggag | ggcgcccacg | atctcctgca | cccgcccagg  | ctgccgcac  | aggaccgtgg | 1320 |
| ccttcacatc  | ggtgctcacc | tgtcccagaa | cccgagagaa  | ccactgaacc | ctgcgccacg | 1380 |
| ctgggcccga  | ggggagcccg | gggctcgctc | gggcgcgcgt  | gtgaggcggg | gccgggggtg | 1440 |
| gcgagggggc  | ggctactggc | ctgggtgaag | cggcggtgcc  | tccgtgacca | gctggggggc | 1500 |
| tcgaagcgcc  | ccgggggtcg | gagtcggggc | ccgcccact   | cgggacgctt | cctccctcct | 1560 |
| cacctccaca  | accatcccgt | tcgagg     |             |            |            | 1586 |

<210> 2938  
 <211> 412  
 <212> DNA  
 <213> Homo sapiens

<400> 2938

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| ggggaagatt | tatcagcgtg | catttgccgg | acacagcctc | aagtttggaa | agggcggtgca | 60  |
| ggcccatggg | tgctgctgtg | tggctgatcg | gaccggtcac | tcaatattgc | acacctcata  | 120 |
| tgggagggaa | aggccggcac | cgtccacct  | gagacaggac | acgtaacgtt | gtggctaggg  | 180 |
| gggaccgcgg | ggaccgggtt | agcgtgccca | gtgagtcagc | cacagattgc | gtaaaaagca  | 240 |
| acagagaaca | gtggtgtggg | gcacatgcag | cgactgtgga | ggtgacagga | gcttacgtgt  | 300 |
| gccttgagaa | gatgctcttt | aaggcctgtg | ggaaatgttg | cctctatgtt | ggaaagtgtg  | 360 |
| attgataatc | ttatatacca | ggctttcact | tgggatatgt | gacactcagc | ct          | 412 |

<210> 2939  
 <211> 3611  
 <212> DNA  
 <213> Homo sapiens

<400> 2939

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| ggaacatgct | acgcattgct | acgccaaagt | tggcacgagg | cggagacacc | gagaggtcac | 60  |
| tgtgttttga | cccacctggc | agcttaagaa | gaaccggagg | gtgagagaga | gccactttct | 120 |
| gacgaagcta | cactcgctca | agatgctttc | aatcacaccc | tcccagcttg | agaatggcaa | 180 |



|             |             |             |            |             |             |      |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| gaagatcacc  | acctacgatt  | ataggttcat  | ggtaaagctg | gcagaggaga  | cagatggcat  | 240  |
| cattgtcacc  | aatgagcaga  | ttcacatcct  | gatgaatagt | tccaagaaac  | tgatgggtcaa | 300  |
| agatcgcttg  | ctgcctttca  | ccttttgctg  | gaatctcttc | atgggtgctg  | atgacccct   | 360  |
| gggccgtgat  | ggccccacct  | tggatgagtt  | tctgaagaag | ccaaacaggt  | tggacactga  | 420  |
| cattggcaac  | ttcctgaagg  | tgtggaagac  | ccttcctccc | agctcagcca  | gtgtcactga  | 480  |
| gctgagtgat  | gacgctgact  | ctgggccccct | ggagagtctg | ccgaatatgg  | aagaagtcag  | 540  |
| ggaagagaag  | gaggagaggg  | aggatgagga  | gcagagacag | gggcagggca  | cacagaaggc  | 600  |
| ggctgaggag  | gacgaccttg  | actcttcgct  | ggcgtcagtg | ttcaggggtg  | agtgcccgct  | 660  |
| cctttcggag  | gagatcctgc  | ggtgcctcag  | cctccatgat | ccccctgatg  | gggccctgga  | 720  |
| catcgacctc  | ctgccagggg  | cagcttctcc  | ctacctgggc | atccccctggg | atggaaaggc  | 780  |
| tccttgccag  | cagggttctg  | cccacctggc  | ccagctcacc | atccccagca  | acttcaccgc  | 840  |
| actctccttc  | ttcatgggct  | tcattggactc | ccacagggat | gccatccctg  | actatgaagc  | 900  |
| cctagtgggc  | cccctgcaca  | gcctcctcaa  | gcagaagcct | gactggcagt  | gggaccagga  | 960  |
| gcatgaggag  | gccttcctgg  | ccttgaagcg  | agccctgggt | tctgccctct  | gcctgatggc  | 1020 |
| ccccaaactcc | cagctgccct  | tcgcctgga   | ggtgaccgtg | agccacgtgg  | ccctgacggc  | 1080 |
| catcctccat  | caggagcact  | cagggaggaa  | gcaccccata | gcctatacct  | caaaacccct  | 1140 |
| cctccctgat  | gaggagagcc  | agggccccc   | gtcagggggt | gacagccct   | atgctgtggc  | 1200 |
| ctggggccctc | aagcattttt  | cccgtgcct   | tggagacacc | ccggtggtcc  | tggacctttc  | 1260 |
| ctatgcctcc  | cggaccactg  | cggaccctga  | ggtgcgggag | ggccgcaggg  | tttccaaagc  | 1320 |
| ttggttgatc  | cgatgggtcc  | tcttggttca  | ggacaaaggc | aagagggccc  | tgggaattggc | 1380 |
| cctcctccag  | ggcctgctgg  | gggagaaccg  | cctgctcacc | cccgcggcct  | ccatgcctcg  | 1440 |
| cttcttccag  | gttctgccc   | ctttctctga  | cctgtccacg | ttcgtctgca  | tccacatgtc  | 1500 |
| gggctactgc  | ttctaccgtg  | aggatgagtg  | gtgtgctggc | tttggtctct  | atgttctatc  | 1560 |
| gccaccagc   | ccccctgtct  | ccctttcctt  | ctcctgctcc | ccttacacgc  | caacctatgc  | 1620 |
| ccacctggca  | gcccgtggcct | gcggcctgga  | gcgctttggc | cagtccccac  | tcccagtggt  | 1680 |
| tttcctcact  | cactgcaact  | ggatcttcag  | cctcctgtgg | gagctcctgc  | ccctctggag  | 1740 |
| ggctcggggc  | ttcctctcct  | ctgatggggc  | tccactccct | cacccaagcc  | tgctctccta  | 1800 |
| cattatatcc  | ctcacctctg  | gcctctcatc  | ccttccggtt | atctaccgaa  | cctcctaccg  | 1860 |
| gggctctctg  | tttgctgtga  | cagtggacac  | cctggccaag | caggggtgcc  | aggggggtgg  | 1920 |
| gcagtgggtg  | agtttgccaa  | aggatgtgcc  | agccctaca  | gtgagtcctc  | atgccatggg  | 1980 |
| caagaggccc  | aatttgctgg  | cattacagct  | gagtgacagc | accctggccg  | acatcattgc  | 2040 |
| caggtctcag  | gctgggcaga  | aactgtctgg  | ctcctcaccg | tttagttctg  | cctttaactc  | 2100 |
| actcagcctc  | gacaaggaga  | gtggcctgct  | tatgttcaag | ggagataaga  | agcccagggt  | 2160 |
| ctgggtagtc  | ccgacgcaac  | tccggaggga  | tctgattttc | tctgtgcatg  | acattccctt  | 2220 |
| ggggggccac  | cagaggcccc  | aagagacct   | caagaagtgt | cgtttgctgg  | ggtgggtggc  | 2280 |
| tgggatgcag  | gagcatgtga  | aagattactg  | caggagctgc | ttgttctgca  | tccccgaaa   | 2340 |
| tctcataggc  | agcgagttga  | aggttattga  | gtcccatgg  | cccctcaggt  | cgaccgcccc  | 2400 |
| ctggtcgaac  | ctgcagatcg  | aggtgggtgg  | cccgtcacc  | ataagtgagg  | agggccataa  | 2460 |
| gcatgtactt  | attgtggctg  | acccaaacac  | caggtgggtg | gaggcattcc  | ccctgaagcc  | 2520 |
| ctacacacac  | acggctgtgg  | cccaggtgct  | gcttcagcat | gtgtttgcaa  | ggtgggtgt   | 2580 |
| tcctgtgagg  | ctggaggcag  | cccaggggccc | ccagtttgcc | cggcacgtcc  | ttgtgagctg  | 2640 |
| tgggctggcc  | ctgggagccc  | aggtggcctc  | cctgagtcgg | gacctccagt  | tcccctgcct  | 2700 |
| gacgagctca  | ggggcctact  | gggaattcaa  | gagggccctc | aaggagttca  | tcttcctgca  | 2760 |
| tgggaagaag  | tgggcggcct  | ccctgccttt  | gctgcacctg | gccttcaggg  | cctcctccac  | 2820 |
| tgatgccaca  | ccgttcaagg  | tcctgaccgg  | gggtgagtca | aggctcacgg  | agcccctgtg  | 2880 |
| gtgggagatg  | agcagcgcaa  | acattgaagg  | gctcaagatg | gacgtcttcc  | tgctacagct  | 2940 |
| ggtgggggag  | ctgctggagc  | tccactggag  | ggtggctgac | aaggcgagtg  | aaaaggccga  | 3000 |
| gaacaggcgt  | ttcaagcggg  | agagccagga  | gaaggagtgg | aatgtgggtg  | accaggtcct  | 3060 |
| tttgctgtcc  | ctccccagga  | atggcagcag  | tgccaaatgg | gtgggtccct  | tctatatcgg  | 3120 |
| ggaccggctg  | agcctgtcac  | tctataggat  | atggggcttc | ccaacccag   | agaagctggg  | 3180 |
| gtgcatctat  | cccagcagtc  | tgatgaaggc  | ctttgccaag | agtggcacc   | cgctgtcctt  | 3240 |
| caaggctctg  | gagcagtga   | cgggagcagc  | gggggtgccc | cctgccccag  | ggccgtgggt  | 3300 |
| ttctgctgct  | aggcctcccc  | ctgtcccagc  | agtgtctca  | gtccactggg  | ggccctcagt  | 3360 |
| tgtgcctttt  | gtagagaact  | tgcttcataa  | agctttgctg | aattgccttg  | aactagggac  | 3420 |
| cagcatcccc  | atggaaacat  | ccccagtttg  | gggtacttgg | agaatttgcc  | aaaggctgtc  | 3480 |
| agatatgggt  | ccctggcagt  | tttacactgg  | gaaatagagt | gctcctctag  | gctataccag  | 3540 |
| gctcagtgtc  | ttctcccaaa  | gtatcctctt  | tccccttcac | atgtaggtgt  | gtggtgggtg  | 3600 |
| gcacacacac  | t           |             |            |             |             | 3611 |

&lt;210&gt; 2940

&lt;211&gt; 1922

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2940

|            |            |             |            |            |            |      |
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| atgggaagtg | tcacagttcg | gtattttctgt | tatgggtgcc | tttttacatc | tgcgacctgg | 60   |
| acagttttgc | tttttgttta | tttcaacttc  | agtgaagtga | ctcagccact | taagaatgtg | 120  |
| cccgtcaagg | ggtctggggc | ccacggacca  | tctccaaaaa | aattctatcc | ccgtttcact | 180  |
| cgaggcccaa | gtcgagtgt  | cgagccacag  | ttcaaagcaa | acaaaattga | cgatgtgata | 240  |
| gacagtcgtg | ttgaagatcc | agaagaaggc  | cacttgaaat | tctcttctga | attaggtatg | 300  |
| atttttaatg | aacgcgatca | agagttgaga  | gacttgggct | atcagaaaca | tgcttttaat | 360  |
| atgcttatca | gtgaccgctt | gggctaccac  | agagatgtgc | cagacacaag | gaatgcagcg | 420  |
| tgtaaagaaa | agttctaccc | acctgacctg  | ccagctgcta | gtgttgttat | ctgtttctat | 480  |
| aatgaagcgt | tttctgcctt | gcttcggaca  | gtgcacagtg | tcatagaccg | cacgccagca | 540  |
| cacctgcttc | atgagatcat | ccttgtggat  | gatgatagtg | actttgatga | tttgaaagga | 600  |
| gaactagatg | aatatgtcca | aaaatacctc  | cctggaaaaa | ttaaagtcac | aagaaataca | 660  |
| aagcgtgagg | ggttgattcg | agggagaatg  | attggcgcg  | cccacgcgac | aggagaagtc | 720  |
| cttggtgtcc | tggacagcca | ctgtgaagtg  | aatgtgatgt | ggctgcagcc | cttgctggcc | 780  |
| gccatccgtg | aggaccggca | caccgtgggg  | tgcccagtga | ttgacatcat | cagcgccgac | 840  |
| acgctggcct | acagctcgtc | cctgtcgctc  | cgcgagggg  | tcaactgggg | actgcacttc | 900  |
| aaatgggatc | ttgtccccct | ttctgagcta  | ggacgagcgg | agggagccac | tgcaccaata | 960  |
| aagtcaccaa | caatggctgg | aggtttgttt  | gccatgaaca | gacagtattt | ccatgaactt | 1020 |
| ggacagtatg | atagtggcat | ggatatctgg  | ggaggagaaa | atltggaaat | atcatttcgg | 1080 |
| atctggatgt | gtggcggtaa | gctcttcata  | atcccttgct | ctagagtagg | acacattttc | 1140 |
| cgaaaaaggc | gaccatatgg | atctcccgaa  | ggccaggaca | ccatgacaca | caactctttg | 1200 |
| cggctggcac | atgtctggtt | ggatgaatac  | aaggagcagt | atltttcctt | aagacctgac | 1260 |
| ctgaagacga | aaagctatgg | caatatcagt  | gagcgtgtgg | aactgagaaa | gaagttgggc | 1320 |
| tgtaaatcat | ttaaatggta | tttgataat   | gtatacccag | agatgcagat | atctgggtcc | 1380 |
| cacgccaac  | cccaacaacc | catttttgtc  | aatagagggc | caaaacgacc | caaagtcctt | 1440 |
| caacgtggaa | ggctctatca | cctccagacc  | aacaaatgcc | tggtggccca | gggcccgcga | 1500 |
| agtcagaagg | gaggtctcgt | ggtgcttaag  | gcctgtgact | acagtgaacc | aaatcagatc | 1560 |
| tggatctata | atgaagagca | tgaattggtt  | ttaaatagtc | tcctttgtct | agatatgtca | 1620 |
| gagactcgct | catcagaccc | gccacggctc  | atgaaatgcc | acgggtcagg | aggatcccag | 1680 |
| cagtggacct | ttgggaaaaa | caatcggcta  | taccaggtgt | cggttggaca | gtgcctgaga | 1740 |
| gcagtggatc | ccctgggtca | gaagggtctc  | gtcgccatgg | cgatctgcga | tggtcctctc | 1800 |
| tcacagcagt | ggcattttga | aggttaaggt  | ggatgctgtg | gcgggaacgt | tgcttcatca | 1860 |
| ggcgttgcc  | ccggtgtgga | gtttggggct  | ttaggaaagc | ctgggttggg | tggagcagaa | 1920 |
| cc         |            |             |            |            |            | 1922 |

&lt;210&gt; 2941

&lt;211&gt; 5418

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (5418)

&lt;223&gt; n = a, t, c or g

&lt;400&gt; 2941

|            |            |            |             |            |            |     |
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| cataaagcaa | accaaattgg | agacgaaatg | atgttaggta  | tccttgtagg | tttacttcat | 120 |
| aatacataac | ctctaateca | tgtccatctt | cttgtttctg  | cttttaattc | tgccatttcc | 180 |
| tcttaaaatt | tagggtttaa | caaagacaac | agggctgttt  | gccaaatcgc | agctattaat | 240 |
| tcacagcata | gaaaagtcaa | agctatagca | aaaaattgct  | aatctgcaca | actttaaaaa | 300 |
| atagttcagt | acatttttgt | tataaaattc | atlttacagga | ggttattcac | atgtacttgt | 360 |
| caaatttact | cctgataatt | cacaaaaaca | tacaactcaa  | caaactgtgc | acaataaatc | 420 |
| caaggcaaat | tatatacaaa | gaaacaaaac | aagcttttaa  | gtagcacata | ttcatttgaa | 480 |
| ataactaata | ttgaaagaag | acagggaact | ttctttttaa  | gccatggcaa | agacgaagcg | 540 |
| aagagccaca | cttcacacct | tgtaaaaaga | atagccctgt  | tcaacaacgc | tgcgctgaca | 600 |
| gccacatcag | gaggggccac | ggtgaacata | ggaaatggct  | ttggcaaata | cttgtaccaa | 660 |
| ctggaacgag | tgaagtttca | aaagtaatgt | gaggtacaac  | tgcattccgc | tgtgaaaggc | 720 |

|             |             |             |             |             |            |      |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| cgtcacagga  | cacaggctcg  | tctgttagaa  | aggatgatct  | agttctacca  | ttaattcttg | 780  |
| cagaatcaga  | tctgctgagt  | ggtgaaccaa  | caggtgaaca  | caacgtaaga  | acaggcatca | 840  |
| aacttcactg  | gaaataatat  | tgttcagtg   | gtggcggcaa  | aatatgcatt  | ttagagaaaa | 900  |
| cttattttctc | aaatcatgtg  | ttaatagtat  | taacatgagc  | agcgtgagag  | acatcctgac | 960  |
| cccaacgttt  | ttgcccacgc  | cctcccttta  | gaagcttagg  | agtttgtaca  | ttccctaagt | 1020 |
| ggtcagcact  | acaagtgtct  | gctaaaatgg  | gcacttcac   | aagataacag  | gaaagcaaac | 1080 |
| ttaaagtaac  | gagattttctt | cccaaaggca  | catggaagaa  | gctgatagag  | cccttgaccc | 1140 |
| agacagaatg  | ggacccatcc  | ctacccgtcc  | tgaactgtcg  | cacactgcat  | ggccaaagac | 1200 |
| aaactctcca  | ccccacaga   | ggaagcagtg  | gctgactctg  | gggacaaagc  | actccaggaa | 1260 |
| gtcacctgct  | ccctgggttt  | caggagtatt  | cagttgaccg  | tctggacacc  | agtgaggag  | 1320 |
| acacaggtaa  | tgaaatcaaa  | tgctcaaact  | tttggcaacc  | gaaagtgtgt  | ttttaaagct | 1380 |
| ctttataatc  | tgctcaagta  | gaatttctaa  | cacaaaacc   | ttttttgctt  | aaaaagcaga | 1440 |
| tgacaaagga  | aatgtcaa    | aatgcacatg  | aatcttcagc  | tattttccta  | ccccaaatg  | 1500 |
| agatatgggg  | ctgcacagca  | ttcattacag  | atccctagtt  | tttacaactg  | tcaactgtac | 1560 |
| attctcatgt  | ttaggatact  | ccagttcact  | gcgtggatat  | ttggaaaact  | ggacaaaatc | 1620 |
| aggcagccca  | cccctccctt  | gtcccagagat | tcctcgatct  | ccattcacca  | tgaccaat   | 1680 |
| tttccccac   | aaaagcacta  | ttacctttta  | ttagtagctg  | gaaacaccta  | tcagatat   | 1740 |
| taaacagcat  | gtattttttac | caggtagatg  | atctctgaag  | atcacaggaa  | gtctaccact | 1800 |
| ctcttcccag  | ttctgaactc  | ctctgggttac | gcttcatttt  | aaatcgggtg  | cttctttccc | 1860 |
| gccccaaata  | ttctatttgg  | cctgccccag  | tggttcccaa  | gctgcctggt  | gatcagaatc | 1920 |
| ccttgggaaa  | tggtgaacac  | acagcttccc  | aggctttctg  | gaaaactagt  | tagatctgtc | 1980 |
| tgacaatctg  | taagctgagg  | cgattcttcc  | acagctgacc  | cagcgcta    | ctagcatttg | 2040 |
| gcaaccaa    | gtctgtacct  | caccagtcac  | acaaggctca  | caatatgctg  | ggagcatttg | 2100 |
| aatgatagct  | caagaattat  | tctttcactc  | catattcttc  | tctctcaaga  | agattaggaa | 2160 |
| ttttagctag  | ggaactatgt  | gcatactgaa  | acaggtaaat  | gaactcatca  | cagaaatata | 2220 |
| ataccctggg  | ccaatgcact  | ctatctaaaa  | atgcaccatg  | tcagcaaaac  | tttaccta   | 2280 |
| ataaccgtgc  | tgcccaaagt  | gtcccctagg  | agactccagg  | tttttggggg  | gttttttgct | 2340 |
| ttttttaata  | gagccagaga  | cacctgaccc  | accagcacta  | actcagctta  | ttccaagcta | 2400 |
| ggctgttaaa  | taattatctg  | tcttgctcta  | acaatggttg  | aaaggacccg  | ccctcctccc | 2460 |
| atcttttttt  | tttttggtaa  | tataaagttt  | gttctgttga  | aaactgatta  | acatttttaa | 2520 |
| cagggggaaa  | gaaaagcggg  | ctactagatt  | aaatttttaa  | aggattttgt  | tatttgctat | 2580 |
| acaaatatac  | atttcaactt  | ttacaacatt  | cactccagtc  | tgacctcctt  | gtctatagaa | 2640 |
| gactaagaga  | tcaacatttc  | cagtctctga  | cttcaaggac  | attattacgg  | atacacaatg | 2700 |
| ccctctgaaa  | gcttttgcaa  | atgacagaaa  | atactgaaga  | tgaccagagg  | ctcaggtgtt | 2760 |
| aaggatgcat  | tttccatggt  | ttccaacagc  | acacaaactc  | cttacaaaaa  | acaagcttat | 2820 |
| ctagatggtc  | ccacgagctg  | gtcatcttca  | gtttacaata  | tgctgtggct  | gctggcccat | 2880 |
| gtcactgggc  | tttccataaa  | aagctttcct  | ttcttggaac  | tgctgtcctc  | ctgctccagt | 2940 |
| gtcctcttgt  | cccacctaga  | gttccctcctg | gtgtgatggg  | tctcggaacc  | acacttctcc | 3000 |
| tgctccctt   | cactgaaagc  | cctggcctct  | ctcctgtgac  | agagctcctc  | ttccgggtca | 3060 |
| tcacatttgc  | tctgacacgt  | ggaagcctcg  | ggactggcag  | ctggagggtc  | gccccgcacg | 3120 |
| ggagggttgt  | ggctgctcag  | agcagccact  | acagcagcgg  | gctgctgtac  | atggctcagg | 3180 |
| tcctggtgaa  | cgacagggaa  | gcccggctcg  | cccgtaggag  | gtgttgctcc  | aggatgctgg | 3240 |
| gggctcgagg  | gttggtggatc | ccaaaggaat  | attcctcctt  | tgacctcaat  | gcccacctc  | 3300 |
| ttcagcagtc  | gtgggtcctg  | aagttgggtca | tgaacaggag  | gtctttcagg  | gtcctttgaa | 3360 |
| gtaacagtaa  | gagtaatttc  | cttgagtgca  | gagggtgtgt  | ggtatagaga  | agcagcaaca | 3420 |
| gatgtcttgg  | caaatccact  | gtctagcttg  | ctgctgggca  | aaccacccctg | gggtctggac | 3480 |
| ccctctgggg  | ctatggtagg  | aggggtgagtg | agacttctct  | gcagcacagg  | cttgagtttc | 3540 |
| agaatcttca  | ctgcatcatg  | tctatagttt  | ttgtcacagg  | tcttaataat  | ggcaccacgc | 3600 |
| ttctgagcat  | cctgaatcag  | ctgattccaa  | tgctgggttt  | ccatcagggt  | cctcaa     | 3660 |
| ccgaggatga  | agaggctgta  | cttggtcctg  | gtgatgggtga | cattcaatct  | ctgcaaactt | 3720 |
| gccaggaatc  | caattgaacc  | ttggatgcta  | tttgcctctga | cacacgtaac  | aataacacaa | 3780 |
| tccttctgcc  | gacctggaa   | tgcatccaca  | gtgtctactt  | ctgctgggtcc | tttctatcg  | 3840 |
| aactctttgt  | ccaaatcctt  | ctgaatcctc  | gtcttctggg  | ccttgtaatg  | agttattatg | 3900 |
| ccaatgtttc  | gaaaactaac  | atcctttcct  | ttgtctttaa  | taagcttaat  | tatttccatc | 3960 |
| accagtttta  | tttcttgaa   | atztatatat  | gagtcattat  | cccgtctttc  | tgaaccatct | 4020 |
| ccaacatcaa  | acacaaggta  | tggtgaaat   | ggccaatctg  | atgaacatcg  | aatggcttct | 4080 |
| gtctgtctat  | ttgtttttaa  | gtttctgtta  | ttaacataat  | tagaagggaa  | gaggcatatg | 4140 |
| tctggatgca  | tcctgtactg  | aacagtgagc  | tgtagaatgg  | gcagcctgct  | gatcatgttg | 4200 |
| tgttctacat  | tctcttccag  | cagtctgcag  | aagcagacca  | tcattgactg  | gtcgtagcca | 4260 |
| tactcctgtg  | ctttcataga  | gatgactgtc  | ggaggagct   | gcttaggac   | tcctactagg | 4320 |
| atgagcttat  | tgacgcgatg  | gatgagtggg  | gtaagagtct  | caatttcaca  | agactgtcca | 4380 |
| gcctcatcaa  | caatgacaca  | gctgaagggg  | acacccctt   | gcccacggaa  | agcagactca | 4440 |
| agtagtaaac  | caccacttgt  | gctcaacgtg  | cagcagatga  | tatgggactc  | taagatgatg | 4500 |
| atactctgtg  | tttctgtgg   | gcgtccttga  | acctctttaa  | ttttagaagc  | aagttcctgc | 4560 |

|            |            |            |             |             |            |      |
|------------|------------|------------|-------------|-------------|------------|------|
| ctttccttag | aaactttgga | aatgttttca | tctaattctt  | gcctctgtat  | ttcccgtcca | 4620 |
| cctcggcata | gagctcgctg | ccgggaaagc | tcattccagct | gataatctag  | aaattccttt | 4680 |
| cttttatgca | tcgcctgaac | atgagaaggt | aactcctttt  | tcattctgtg  | gtttacttgg | 4740 |
| ctgtccaaac | tgaactttag | aacctcacta | ttaatagact  | tttctggacc  | cagtcgtact | 4800 |
| aaatttatat | ctccacagtt | tcctaaagga | ttcttcttgt  | ctttacattt  | ttctttgaat | 4860 |
| tcaaggataa | tttttttcat | gagttcatca | acagctgcat  | tggaagggtgc | acacacgagg | 4920 |
| acacgggttt | gtttgatttt | ggcattggag | ttttcgtctg  | aatgcccctt  | cctctgggtc | 4980 |
| tctgtcagta | gacgatagag | gaggccaaca | atagtttttg  | attttcctgt  | tccagggtgt | 5040 |
| ccatgaatca | agcagatttt | ggcaactgat | ggtgagtgtt  | tcaccatagc  | atatgcagtt | 5100 |
| tctattgctt | tcttttgatc | ttcattgaaa | tctcttaagt  | acgcaataat  | tctctcagat | 5160 |
| gttgtagtca | gtaaatcttt | tgtacagaag | tccatagggt  | ttggattcag  | aacagctcta | 5220 |
| gccagttggt | tccgactacc | caacagagac | atggccttca  | acttcctttg  | tgtagttacc | 5280 |
| agagaactga | ttacaataca | attcacaagt | tcgtttaaat  | tggccggaaa  | gttctcttga | 5340 |
| gtctggatgg | aaaggtaaca | ctcagttttg | gaattccacc  | gcacttannn  | anggnctaca | 5400 |
| atanagggct | cgatggcg   |            |             |             |            | 5418 |

&lt;210&gt; 2942

&lt;211&gt; 436

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (436)

&lt;223&gt; n = a, t, c or g

&lt;400&gt; 2942

|            |            |            |             |            |             |     |
|------------|------------|------------|-------------|------------|-------------|-----|
| cggtccggaa | gtcccggctg | gacccacgcg | ttcggggcgtc | ctcgtggaat | tgacatcgtc  | 60  |
| tttaaaccct | gcgaggcaat | ccctgacgca | ccggcgggat  | gccaggggaa | gacagggcga  | 120 |
| cctggaagtc | caactacttc | cttaagatca | tccaactatt  | ggatgattat | cccaaacgtt  | 180 |
| tcattgtggg | agcaaacaat | gtgggctcca | agcagatgca  | gcagatccgc | atgtcccttc  | 240 |
| gcgggaaggc | tgtggtgctg | atgggcaaga | acaccatgat  | gcgctagggt | tnctgggggc  | 300 |
| gcgccctccc | cgcaccctgg | ggctccccag | ctgtaacacc  | ttccccccac | ggcttttaggc | 360 |
| gcagggtggg | gggcacccca | acacacaaat | gccgcgggag  | agctcctgac | catgggggtca | 420 |
| cgcccttggc | cggatg     |            |             |            |             | 436 |

&lt;210&gt; 2943

&lt;211&gt; 545

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (545)

&lt;223&gt; n = a, t, c or g

&lt;400&gt; 2943

|            |             |            |             |             |             |     |
|------------|-------------|------------|-------------|-------------|-------------|-----|
| ngagtagcag | aatgggttagc | cttcgtgctt | tctgcttaag  | gcagctgtca  | gtttgcatgt  | 60  |
| ccatgggtca | gagtgtggat  | aatcgtggta | tagcaaagtg  | tcactatcac  | caaggggagg  | 120 |
| caaagtagtt | gcagtcaaaa  | ttaggttgta | ccacttaata  | gtattgagtt  | catccgaact  | 180 |
| ggtgaggctg | agacaggctg  | atctgttggt | cctgttggtt  | gatgtgatca  | agaaggatcat | 240 |
| cggaatgaca | gctaccagtg  | aaatgatcca | caccacagca  | caggctacaa  | ctgcacatcg  | 300 |
| agttttgtga | atggaaaagc  | agctcattgg | gtgaatgatc  | acacagtagc  | ggaagatgct  | 360 |
| gaaacaggtg | aggaagagga  | tgctgctata | caggttgaaa  | tgggaagctga | agcggataaa  | 420 |
| cttacacatg | aaatctccaa  | agatccagtt | ttcgccactg  | gcatagtagt  | gaatcaggaa  | 480 |
| ggggaggctg | gtcagataac  | agcagatctg | tgcaggggcca | ggttcagcat  | taatagatgg  | 540 |
| gctgn      |             |            |             |             |             | 545 |



<210> 2944  
 <211> 1852  
 <212> DNA  
 <213> Homo sapiens

<400> 2944

|             |             |            |             |             |             |      |
|-------------|-------------|------------|-------------|-------------|-------------|------|
| ggggaagagg  | cagtgggagg  | gggggcggag | ggcgggggct  | tcgggggtggg | cgcccagggt  | 60   |
| agggcagggtg | gccgcggcgt  | ggaggcaggg | agaatgcgac  | tctccaaaac  | cctcgtecgac | 120  |
| atggacatgg  | ccgactacag  | tgctgcactg | gacccagcct  | acaccaccct  | ggaatttgag  | 180  |
| aatgtgcagg  | tgttgacgat  | gggcaatgac | acgtccccc   | cagaaggcac  | caacctcaac  | 240  |
| gcgccaaca   | gcctgggtgt  | cagcgccctg | tgtgccatct  | gcggggaccg  | ggccacgggc  | 300  |
| aaacactacg  | gtgcctcgag  | ctgtgacggc | tgcaagggt   | tcttccggag  | gagcgtgcgg  | 360  |
| aagaaccaca  | tgtactcctg  | cagatttagc | cggcagtgcg  | tggtggacaa  | agacaagagg  | 420  |
| aaccagtgcc  | gctactgcag  | gctcaagaaa | tgcttccggg  | ctggcatgaa  | gaaggaagcc  | 480  |
| gtccagaatg  | agcgggaccg  | gatcagcact | cgaagggtcaa | gctatgagga  | cagcagcctg  | 540  |
| ccctccatca  | atgcgctcct  | gcaggcggag | gtcctgtccc  | gacagatcac  | ctcccccgtc  | 600  |
| tccgggatca  | acggcgacat  | tcgggcgaag | aagattgcca  | gcategcaga  | tgtgtgtgag  | 660  |
| tccatgaagg  | agcagctgct  | ggttctcgtt | gagtgggcca  | agtacatccc  | aggtttctgc  | 720  |
| gagctccccc  | tggacgacca  | gggggccttg | ctcagagccc  | atgctggcga  | gcacctgctg  | 780  |
| ctcggagcca  | ccaagagatc  | catggtgttc | aaggacgtgc  | tgctcctagg  | caatgactac  | 840  |
| attgtccctc  | ggcactgccc  | ggagctggcg | gagatgagcc  | gggtgtccat  | acgcacccct  | 900  |
| gacgagctgg  | tgctgccctt  | ccaggagctg | cagatcgatg  | acaatgagta  | tgcctacctc  | 960  |
| aaagccatca  | tcttctttga  | cccagatgcc | aaggggctga  | gcgatccagg  | gaagatcaag  | 1020 |
| cggctgcgtt  | cccagggtgca | ggtgagcttg | gaggactaca  | tcaacgaccg  | ccagtatgac  | 1080 |
| tcgcgtggcc  | gcttttgaga  | gctgctgctg | ctgctgccc   | ccttgccagag | catcacctgg  | 1140 |
| cagatgatcg  | agcagatcca  | gttcatcaag | ctcttcggca  | tggccaagat  | tgacaacctg  | 1200 |
| ttgcaggaga  | tgctgctggg  | agggtccccc | agcgatgcac  | cccattgccc  | ccaccccttg  | 1260 |
| caccctcacc  | tgatgcagga  | acatatggga | accaacgtca  | tcgttgccaa  | cacaatgccc  | 1320 |
| actcacctca  | gcaacggaca  | gatgtgtgag | tggccccgac  | ccaggggaca  | ggcagccacc  | 1380 |
| cctgagaccc  | cacagccctc  | accgccaggt | gcgtcagggt  | ctgagcccta  | taagctcctg  | 1440 |
| ccgggagccg  | tcgccacaat  | cgtcaagccc | ctctctgcca  | tccccagcc   | gaccatcacc  | 1500 |
| aagcaggaag  | ttatctagca  | agccgctggg | gcttgggggc  | tccactggct  | ccccccagtc  | 1560 |
| cccctaagag  | agcacctggt  | gataccgtgg | tcacggcaaa  | ggaagacgtg  | atgccaggac  | 1620 |
| cagtcccaga  | gcaggaatgg  | gaaggatgaa | gggcccagaa  | acatggccta  | aggcacatcc  | 1680 |
| cactgcaccc  | tgacgccttg  | ctctgataac | aagactttga  | cttggggaga  | ccctctactg  | 1740 |
| ccttggacaa  | ctttctcatg  | ttgaagccac | tgccctcacc  | ttcaccttca  | tccatgtcca  | 1800 |
| acccccgact  | tcaccccaaa  | ggacagccgc | ctggagatga  | cttgagcctt  | ac          | 1852 |

<210> 2945  
 <211> 6046  
 <212> DNA  
 <213> Homo sapiens

<400> 2945

|             |            |            |            |            |            |     |
|-------------|------------|------------|------------|------------|------------|-----|
| cgggtcctca  | gcctggaatc | accccttgag | aaggacccca | gagtcctcgg | cgcccagttc | 60  |
| gtcccccgag  | gcagggcact | gaaggggtta | agtcacctgg | ggctggattc | cgccttcagg | 120 |
| cttttccag   | accccagagc | cggtcctctg | aacactgcag | tcctgagctc | tgggatggag | 180 |
| cccgagactg  | cgctgtgggg | cccggatctg | cagggtccgg | aacagagccc | caacgatgct | 240 |
| cacagagggtg | ccgagagtga | aaacgaagag | gagagccctc | ggcaggaaag | ttctggggag | 300 |
| gagatcatca  | tgggagaccc | ggctcagagt | ccagaatcca | aggactcaac | agagatgtcc | 360 |
| ctggagagat  | cctcccagga | cccctctgtc | ccccagaacc | ccccaacccc | actgggtcac | 420 |
| tccaatccct  | tggaccacca | gatccccctg | gacccccag  | ccccggaggt | agtccctacc | 480 |
| ccatctgact  | ggaccaaggc | ctgcgaggcc | agctggcagt | ggggcgctct | caccacatgg | 540 |
| aacagccccc  | cagtcgtccc | cgccaacgag | cccagcctgc | gggagctggg | gcaggggcgc | 600 |
| ccggcggggg  | cggagaagcc | ctacatctgc | aacgagtgcg | gcaagagctt | cagccagtgg | 660 |
| tccaagctgc  | tgcggcacca | gcgcacccac | acgggagagc | ggcccaacac | ctgctccgag | 720 |
| tgcggaaga   | gcttcacgca | gagctcgcac | ctggtgcagc | accagcgcac | gcacaccggc | 780 |
| gagaagccct  | acaagtgtcc | cgactgcggc | aagtgttca  | gctggagctc | caacctggtg | 840 |

|            |             |             |             |             |            |      |
|------------|-------------|-------------|-------------|-------------|------------|------|
| cagcaccagc | gcacgcacac  | gggagagaag  | ccctacaagt  | gcacggagtg  | cgagaaagcc | 900  |
| ttcaccacga | gcaccaacct  | catcaagcac  | cagcgatccc  | acaccggcga  | gaagccctac | 960  |
| aagtgcggcg | agtgccggcg  | ggctttctac  | cgcagctcgg  | acctcatcca  | gcaccaggcc | 1020 |
| accacacag  | gcgagaaacc  | ctacaagtgc  | cccagtgctg  | ggaagcgctt  | cggccagAAC | 1080 |
| cacaacctcc | tcaagcacca  | gaagatccac  | gcgggcgaga  | agccataccg  | ctgcaccgag | 1140 |
| tgcggaaga  | gcttcatcca  | gagctcggag  | ctgaccacgc  | accagcgcac  | gcacacaggc | 1200 |
| gagaagccct | acgagtgcct  | agagtgcggc  | aagagcttcg  | gccacagctc  | caccctcatc | 1260 |
| aagcaccagc | ggactcacct  | gcgcgaggac  | ccgttcaagt  | gcccagtgtg  | cggcaagacc | 1320 |
| ttcaccctga | gcgccacgtt  | gctgcggcac  | cagcgcacgc  | acacggggcg  | gcggccctac | 1380 |
| aagtgccag  | agtgcggcaa  | gagcttcagc  | gtcagctcca  | acctcatcaa  | ccaccagcgc | 1440 |
| atccaccgcg | gcgagcggcc  | ctacatctgc  | gccgactgcg  | gcaagagctt  | catcatgagc | 1500 |
| tccaccctta | tccgccacca  | gcgcacccac  | accggtgaga  | agccctacaa  | gtgttccgac | 1560 |
| tgcggaaga  | gcttcatccg  | cagctcccac  | cttatccagc  | accgccgcac  | gcacaccggc | 1620 |
| gagaagccct | acaagtgcct  | cgagtgcggc  | aagagcttca  | gccagagctc  | caaccttatt | 1680 |
| accacgtcc  | gcacgcacat  | ggacgagaac  | ctgttcgtgt  | gctccgactg  | cgggaaggcc | 1740 |
| ttcctggaag | cccacgagct  | ggagcagcac  | cgggtgatcc  | atgagagggg  | gaagacccca | 1800 |
| gcgcgtagg  | cccaggggcg  | cagcctgctg  | gggctcgggg  | acccctccct  | gctgaccccg | 1860 |
| ccgcggggag | ccaagccgca  | caagtgtctc  | gtgtgcggaa  | agggcttcaa  | cgacgagggc | 1920 |
| atcttcatgc | aacatcagag  | gateccacatc | ggagaaaacc  | cctacaaaaa  | tgcagacggc | 1980 |
| ctcatcgcac | acgcagcccc  | caaacctcct  | cagttacgat  | ccccaggct   | ccctttcaga | 2040 |
| gggaattcct | accccggggc  | tgccggagggc | agagcggagg  | cccccgga    | gccccttaag | 2100 |
| ccgcgggag  | gtcaggagg   | cttcagccag  | aggcgggggc  | tgctgtcctc  | caagacctac | 2160 |
| atctgtctcc | actgcggaga  | gagcttctctg | gatecgtctg  | tgctcctcca  | gcacagctc  | 2220 |
| accacggca  | acgaaaagcc  | ctttctcttt  | cctgattata  | gaattggcct  | aggggaaggc | 2280 |
| gcagggccca | gccccttctt  | aagtgggaag  | ccctttaaat  | gcccgaatg   | caaacaagc  | 2340 |
| tttggcctca | gctctgagct  | gctgtctgcac | cagaaagtcc  | atgcaggcgg  | gaagagctcc | 2400 |
| cataagagtc | cagagctggg  | gaagagctct  | tccgtcctcc  | tggagcatct  | caggagcccc | 2460 |
| ctgggggcca | gacctaccg   | ctgctcagat  | tgcagggcct  | ccttcctcga  | ccgcgtggcc | 2520 |
| ctcaccggc  | accaagaaac  | ccacacccag  | gaaaaacccc  | ccaatcccga  | ggacccccct | 2580 |
| ccagaggcag | tcacctgtc   | cacagatcag  | gaaggtagag  | gcgagacccc  | tacccccaca | 2640 |
| gagagcagca | gccatgggga  | aggcacaac   | cccaaacccc  | tagtggaaga  | aaagccctat | 2700 |
| ctgtgccccg | agtgtggagc  | cggcttcaca  | gaagtgcag   | ccctcctgct  | ccataggagc | 2760 |
| tgccaccag  | gtgtctccct  | gtgaaatggg  | tctggagacc  | aggggcctcg  | ctctctccag | 2820 |
| agaggaacac | tggatttttt  | cccccaaaa   | aattacatgg  | ggaaggagg   | ataacctat  | 2880 |
| cagatggtag | tggagtggag  | gagaaagaac  | cctgggaaaa  | aatagtgcct  | ttacatcagt | 2940 |
| gatgagaaac | cctataaaat  | tgttgggtggg | aagcacttat  | aaggcagtag  | agaaaaactg | 3000 |
| ttgggttaga | aacctataa   | atatgtagga  | aaaaaaaag   | ccctttaagt  | ctgtagcaga | 3060 |
| aaaacctat  | aaaccatagt  | ggataaaagc  | cctattaatt  | gtaggaagag  | gtcccaatat | 3120 |
| gtctctgaac | aacctataa   | aattgtatca  | aaatccttag  | gaaaatccta  | tagggtcggg | 3180 |
| gaagtaccgc | aatggcactg  | acccgggag   | aacgacctc   | agatgatgca  | gaaaacacct | 3240 |
| ctccctcact | gttccacaat  | gttctctccc  | agcagccctg  | gacagtctct  | atggaggaag | 3300 |
| atgctcagct | gggggagtg   | tgtgggaact  | gggtggaaact | gaaaaggaag  | aaaataggag | 3360 |
| aaaaataagt | gaccaggggc  | tctggagccc  | ccagaggaga  | taagacagag  | actaggaaga | 3420 |
| aaaggtcca  | ctcactgcac  | tggggctcct  | gggggttgag  | gacaatgtta  | gatgcattgt | 3480 |
| gtgttttagg | gaaagaggcc  | tatggaatcc  | cttatcaaaa  | ccccaaaatg  | gggaagaaaa | 3540 |
| aacaaattgg | caagcctttt  | taaaggctga  | agtttgggg   | gcagaaacat  | ggtcagtata | 3600 |
| agaatactga | gaaaccacca  | caaaaattag  | ggggaagcag  | ggggcagttt  | ctgttagatt | 3660 |
| gctttgagg  | gagcaaacca  | agggtgggga  | actgctcaca  | tggaaacccag | ctaactccag | 3720 |
| gccccttctt | gcttccggaa  | gcttgcgaaa  | ctgcaagtag  | caggcaggtc  | ccagctctca | 3780 |
| gagtgcagg  | gttctcccca  | caccaggcag  | gaccacctt   | tctccctgcc  | cagccaggga | 3840 |
| cttctactct | gcaaggcctc  | cagggatggc  | gggtgcctcc  | caccacattc  | tcaggtctca | 3900 |
| ccttcaggag | gtttttctctg | aaatctaact  | gccgccagtg  | gcagctcatt  | tctcaaatt  | 3960 |
| ctgtcctcag | tggagaggga  | gaaccgctgc  | tagtcgacct  | ccaaagaata  | aagcccttca | 4020 |
| gagacttagg | gectgcgtgt  | gggcctcccc  | agccttctcc  | aagtcatcag  | ggccacagaa | 4080 |
| tttcttagaa | agcttttgatt | agccagcaac  | ttgattttta  | acttcagcta  | ttcatctttg | 4140 |
| ttggtagcaa | ggctgccccg  | caggataagg  | cagccctcct  | ccctgggtggg | gatccagaca | 4200 |
| ccccacagac | tgagccacag  | gtccctgaag  | agtcgcgaga  | ggcgtatca   | ccctcttcac | 4260 |
| cctggtagct | ggagccctcc  | agggttgtga  | gatccagccc  | aatctcagcc  | ttgagatgga | 4320 |
| tgggatggat | tccactcact  | tggctccct   | ctcctccttg  | gccagaaacc  | ttcagaagga | 4380 |
| aacagaagga | tgagaaagcc  | tcccttgcca  | ggcccatctc  | acctcccaca  | ccacacagtt | 4440 |
| acacattcat | aaacagccaa  | gcctgctcac  | aggcctgggc  | atatgtggct  | ggggagagac | 4500 |
| tgttgcccta | tgagatgggt  | gaagacagaa  | aactcttgaa  | tgaacatct   | gtaacaagac | 4560 |
| tccactccc  | taatcctgga  | gacccttca   | aaaggagagg  | actctgctca  | gcgctgggtc | 4620 |
| agaaaggaag | tgcttgccaa  | ccccagtaat  | gcgctgtcct  | ggagtaagag  | gactgagatg | 4680 |

|             |             |            |             |             |            |      |
|-------------|-------------|------------|-------------|-------------|------------|------|
| ccagctgtgg  | ggcccgtcag  | gagtcacgtc | tcaagagagg  | ggtgacccag  | atTTTTgcaa | 4740 |
| agctgtggaa  | gagacctcta  | attccatgac | ctaaagtttc  | acacaacctt  | tatgcaaata | 4800 |
| cttcgccatt  | tgtctatcct  | ggccccagca | ggatgaccct  | cacatttaaa  | aggatcaaaa | 4860 |
| tctcaaacat  | tgtgggagga  | aaacgccagg | cctgctgggg  | agagggagaa  | ggcaggcctc | 4920 |
| aggattgtgc  | ggagaacccat | gttgccatct | gcataacgcc  | ccagcctatc  | caagtgccag | 4980 |
| gaaggggaagc | actactgagg  | ggggtgctgc | ctgtgggtct  | cttcctaaca  | gaacgccaac | 5040 |
| gaaggggggtg | ccctgtaaga  | atgagaagtc | tgccaagtct  | aaggagatgt  | ccccctcccc | 5100 |
| aagatggtag  | cagaaactga  | agttgtaaag | acaaacctct  | cgcaaagcca  | gaagcagatg | 5160 |
| ctctcaaaaa  | caggcctaag  | gaatctgttc | ccagaagagg  | cctggggagc  | agcttttggg | 5220 |
| gctcagaggc  | cagtctgggg  | ggaggcaggc | agtgtgactg  | aaggccggcg  | caggcctgtt | 5280 |
| tccgactagg  | gtgtagcata  | tttagtagga | tgctcacatg  | ttgtagggat  | gggtgagggc | 5340 |
| taaggggctt  | ggctcttgta  | cgggatggat | gatgtgagcg  | cacagttcgt  | agggtcaggc | 5400 |
| gtcttgcggt  | aggaaagggg  | cagggttcga | tacctctggg  | gtgtggcggtg | ttctctcttg | 5460 |
| cccacctccc  | caagctcctt  | taaccaggag | cttccctccc  | agagtgagct  | acgtcttggg | 5520 |
| aggattgaag  | caggagggtg  | gcagtggcta | gagttgctca  | gatcggctca  | gatgaaggcc | 5580 |
| caggggtcaa  | agcatttgct  | caccacaact | gagtctggaa  | ggcactgtgc  | agccaaaccc | 5640 |
| tcttgctcaa  | tcacatgcag  | gccccaggcc | cctcagaaac  | gccctgggtg  | agggaggagc | 5700 |
| ccaacagata  | gggtcaggga  | gtcagtgggg | aaagcagagg  | ggagagctta  | gagtgaact  | 5760 |
| tgaactgct   | atggacatgg  | aggtcagatg | ggaacttgga  | actgggcatg  | aatcctgaat | 5820 |
| ggtggggaaa  | cttgaagcca  | tcacagccaa | gaggtgggg   | tccatgacct  | gccctgaggt | 5880 |
| cagcagctcc  | cagactcctt  | tgccctcact | aggggaagccc | cagtcaccgg  | acttgtcccc | 5940 |
| atggagtga   | gagaggcccc  | atTTTTgagt | gttgtgtgtc  | caaaacagtg  | ttgtgtcact | 6000 |
| ggtggctcgat | gttgcttagt  | tgaagagaat | aaagggaata  | agattt      |            | 6046 |

&lt;210&gt; 2946

&lt;211&gt; 595

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2946

|            |            |            |             |             |            |     |
|------------|------------|------------|-------------|-------------|------------|-----|
| ttttttatca | gttaatagta | tttattatta | tttgtgggtca | ccaatgccaa  | ttaaaacaat | 60  |
| aattaaatag | aacatgatga | aataattcaa | tggtaggaaa  | aaaaaaaaatc | tggcctacaa | 120 |
| gtgaacatgg | aaagtaaaag | taaatatTTA | gaaagtga    | tcaggagtgg  | aaaaaagctc | 180 |
| cagcatctca | ccatggggtc | ttccaaagcc | agcagtactg  | gagatgttta  | ttgttcaaag | 240 |
| atggacttgc | ttgggttggg | attctccaac | tagagccaga  | ggggagattc  | tctgcttccc | 300 |
| gttccgacca | aagggtaaat | gaaccagca  | cctatgctgg  | cccggacatc  | actgataggt | 360 |
| aagatgaagt | cacttggcac | acctTTTTtg | tcaggttgg   | gagacagaga  | aagatcggtc | 420 |
| tttgccatgc | agatgggcaa | atttccaaaa | ccctgtaaga  | aaggaaagaa  | aatgtgttca | 480 |
| ctgatataga | tgtgagtcct | ctgtgttttt | caatttgcac  | tttatacagt  | ctcggcagca | 540 |
| atggtatgcc | agctcagatc | gaggcacatg | caggagctgc  | ttgttactac  | ttgtt      | 595 |

&lt;210&gt; 2947

&lt;211&gt; 419

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(419)

&lt;223&gt; n = a,t,c or g

&lt;400&gt; 2947

|            |            |            |            |             |            |     |
|------------|------------|------------|------------|-------------|------------|-----|
| ccgccagact | annnaaaaag | acgggatttt | ttatcctgct | ggcctgcctt  | cactgtcctg | 60  |
| ggggaagctc | ggggagacca | ggtggactgg | agtaaactgt | acagagacac  | tgggtctggg | 120 |
| aagatgtcca | ggaaaccacg | agcctccagc | ccattttcca | acaaccaccc  | atcaacacca | 180 |
| aagaggcgag | gaaggggaaa | gcacccctct | atccctggcc | cagaagccct  | atcaaagtct | 240 |
| ccaagacaac | ccataaggga | aaagggaccc | gtcaaggaag | ttccagggaac | aaaaggctct | 300 |
| ccctaaaaga | ccaccgcttc | aaaaaaacct | gaggaatgga | gggggccaac  | actatccagc | 360 |

cactctgacc agccgaacca agaactcaat caaaatgcgc cacagcagga ccatcaggg 419

<210> 2948  
<211> 419  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(419)  
<223> n = a,t,c or g

<400> 2948  
ccgccagact annnaaaaag acgggatttt ttatcctgct ggccctgcctt cactgtcctg 60  
ggggaagctc ggggagacca ggtggactgg agtaaactgt acagagacac tggctctggtg 120  
aagatgtcca ggaaaccacg agcctccagc ccattttcca acaaccaccc atcaacacca 180  
aagaggcgag gaaggggaaa gcaccccttc atccctggcc cagaagccct atcaaagtgc 240  
ccaagacaac ccataaggga aaagggaacc gtcaagggaag ttccaggaac aaaaggctct 300  
ccctaaaaga ccaccgcttc aaaaaaacct gaggaatgga gggggccaac actatccagc 360  
cactctgacc agccgaacca agaactcaat caaaatgcgc cacagcagga ccatcaggg 419

<210> 2949  
<211> 1546  
<212> DNA  
<213> Homo sapiens

<400> 2949  
tcgacccacg cgtccgagca ttgggacagt gctctacaac tggcaaagca tttggcccca 60  
gaccagatac cttttatatac aaaagaatat gctattcagc ttgaattcgc ggggtgattat 120  
gtaaatgctt tggctcatat tgagaaagga ataacaggtg ataataagga acatgatgaa 180  
gcttgtcttg ctggagtggc ccagatgtcc ataagaatgg gagacatacg tcgaggggtt 240  
aaccaagccc tcaagcatcc cagcagggtc cttaaaagag actgtggagc catattggag 300  
aatatgaagc aattttcaga agcggcccaa ctgtatgaaa aaggctctcta ctacgataaa 360  
gcagcatctg tttacatccg ctctaagaat tgggcaaaag ttggtgatct tctgccccac 420  
gtttcttctc ctaagatcca tttgcagtat gccaaagcca aggaagcaga tggaagatac 480  
aaagaagctg ttgtagctta tgaaaatgca aaacagtggc aaagtgtaat ccgcatctat 540  
ctggatcacc tcaataatcc tgaaaaagct gtcaatattg ttagagagac ccagtctctg 600  
gatggagcca aatggtagc cagggttttt ttacagcttg gtgactatgg gtctgccatc 660  
cagtttcttg tcatgtccaa atgcaacaat gaagctttca cactggctca gcaacacaac 720  
aaaatggaaa tctatgcaga tattattggg tctgaagaca ctactaatga agactatcaa 780  
agcattgcct tatactttga aggagaaaag agatatcttc aggtgggaaa attcttcttg 840  
ctgtgtggcc aatattcacg agcacttaaa cacttcctga aatgcccaag ctcggaagat 900  
aatgtggcaa tagaaatggc aattgaaact gttggtcagg ccaaagatga actgctgacc 960  
aatcagctga tagaccatct cctgggggag aacgatggca tgcctaagga tgccaagtac 1020  
ctgttccgct tgtacatggc tctgaagcaa taccgagaag ctgccagac tgccatcatc 1080  
attgccagag aagagcagtc tgcaggcaac taccggaatg cacacgatgt tctcttcagt 1140  
atgtatgcag aactgaaatc ccagaagatc aaaattccct ccgagatggc caccaacctc 1200  
atgattctgc acagctatat actagtaaag attcatgtta aaaatggaga tcacatgaaa 1260  
ggggctcgca tgctcattcg ggtggccaac aacatcagca aatttccatc acacattgta 1320  
cccatectga cgtcaactgt gattgagtgt cacagggcag gcctgaagaa ctctgctttc 1380  
agcttcgcag ctatgttgat gaggcctgaa taccgcagca aaatagatgc caaatacaaa 1440  
aagaagatcg agggaatggg caggagaccc gatatatctg agatagaaga ggccacgact 1500  
ccatgtccat tctgcaaatt tcttctccca gagagtgaac tcctca 1546

<210> 2950  
<211> 1585



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2950

|            |             |            |            |            |            |      |
|------------|-------------|------------|------------|------------|------------|------|
| attgacgggt | ccatccacgc  | gtccgattgt | ctgtatcaga | catcatggga | gcagatccag | 60   |
| ggcgacatca | aaggggaagca | tgagtctcca | ggaccagagg | ggcttgatg  | cagatgatca | 120  |
| tcatctgggc | actgctggat  | actgaagtcc | tcattatggt | gcctagactg | gtctcaaacc | 180  |
| tccggcttca | agagatcctc  | tcacctcgac | cttcaaatta | ctgggattac | aggcatgagc | 240  |
| caccatgtcc | taccagactt  | tgttaaaaga | ggaacaggcc | aggcatcgtg | ggctcacatg | 300  |
| aacactcatg | ccccagaagt  | aaacaagtgt | tagccaacca | ggaggcctat | cctcccccta | 360  |
| acctcaccca | aagccatctc  | tgtgccctcc | cccttgacgg | ggaaacagca | cacactagtg | 420  |
| aaatcttgtc | ttagtgtgtc  | cgggaattgg | gggttcttgg | tctcactgag | ttctagaatg | 480  |
| aagctgcaga | ccctcgcagt  | gagtgttaca | gctcttaagt | tctggtcagc | ctatgtgcca | 540  |
| tgccagaccc | aggaccggga  | tgccctgcgc | ctcaccctgg | agcagattga | cctcatacgc | 600  |
| cgcattgtgt | cctcctattc  | tgagctggag | cttgtgacct | cggctaaagc | tctgaacgac | 660  |
| actcagaaat | tggcctgcct  | catcgggtgt | gaggggtggc | actcgtctga | caatagcctc | 720  |
| tccatcttac | gtaccttcta  | catgctggga | gtgcgctacc | tgacgctcac | ccacacctgc | 780  |
| aacacaccc  | gggcagagag  | ctccgctaag | ggcgtccact | ccttctacaa | caacatcagc | 840  |
| gggctgactg | actttggtga  | gaaggtggtg | gcagaaatga | accgcctggg | catgatggta | 900  |
| gacttatccc | atgtctcaga  | tgctgtggca | cggcgggccc | tggaagtgtc | acaggcacct | 960  |
| gtgatcttct | cccactcggc  | tgcccggggg | gtgtgcaaca | gtgctcggaa | tgttcctgat | 1020 |
| gacatcctgc | agcttcttga  | agaagaacgg | tgggcgttcg | tgatgggtgc | tttgttccat | 1080 |
| ggggagttaa | tacagtggca  | acccatcagg | ccaatgtgtt | ccactgtggc | agatcacttc | 1140 |
| gaccacatca | aggctgttca  | ttggatccaa | gttcatcggg | attggtggag | attatgatgg | 1200 |
| ggcgggcaag | tacaggaaga  | aaacaacatg | caaagcccct | tggaggacaa | gttcccggat | 1260 |
| gagcagctga | gcagttcctg  | ccactccgac | ctctcacgtc | tgcgtcagag | acagagtctg | 1320 |
| acttcaggcc | aggaactcac  | tgagattccc | atacactgga | cagccaagt  | accagccaag | 1380 |
| tggtcagtct | cagagtcctc  | ccccacatg  | gccccagtc  | ttgcagttgt | ggccaccttc | 1440 |
| ccagtcctta | ttctgtggct  | ctgatgacct | agttagtctc | gccagatgtc | actgtagcaa | 1500 |
| gccacagaca | ccccacaaag  | ttccctgtgt | gtgcaggcac | aaatatttcc | tgaaataaat | 1560 |
| gttttggaca | tagaaacaga  | aaaaa      |            |            |            | 1585 |

&lt;210&gt; 2951

&lt;211&gt; 883

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2951

|            |             |            |             |             |            |     |
|------------|-------------|------------|-------------|-------------|------------|-----|
| cacgagacca | ccccggctgt  | ggtgcaaagc | gtcctcctgg  | agaggggggtg | gaataagttt | 60  |
| gataagcagg | agcagaacgc  | ggaggactgg | aacctgtact  | ggaggacatc  | ctctttccga | 120 |
| atgaccgaac | acaacagtgt  | taaaccgtgg | cagcagctaa  | accaccaccc  | tggaaccacc | 180 |
| aagcttacca | ggaaagactg  | tttggccaaa | cacctgaagc  | acatgaggag  | gatgtatggc | 240 |
| acttccctgt | accagttcat  | ccccctgacg | ttcgtcatgc  | ccaatgacta  | taccaagtcc | 300 |
| gtggctgaat | actttcagga  | gaggcagatg | ctgggaccca  | agcatagcta  | ttggatttgc | 360 |
| aagcctgctg | agttatctcg  | tgggaggggg | atactaattt  | tcagtgactt  | taaagacttc | 420 |
| atctttgatg | atatgtacat  | agtgcagaaa | tatatctcca  | atcctttact  | tattggcaga | 480 |
| tataaatgtg | atctccgcat  | ctatgtttgt | gttactggct  | ttaagccttt  | gaccatttat | 540 |
| gtttatcagg | aagggttggg  | tgggtttgcc | acggaaaagt  | ttgacctcag  | taatttgcaa | 600 |
| aacaattatg | cccatttgac  | caacagcagc | atcaataaat  | ccggggcctc  | ttatgagaag | 660 |
| atcaaagaag | tgattgggtca | tggttgtaaa | tggacgtcca  | gcagattttt  | ttcctacctt | 720 |
| cgtagctggg | atgtggacga  | tctgcttttg | tggagaagaaa | tccaccgcat  | ggttattctc | 780 |
| accattctcg | ccattgcacc  | atctgtcccc | tttgcctgcca | attgctttga  | gctctttggg | 840 |
| tttgatattt | tgattgatga  | caacgaattc | caccgcactg  | gac         |            | 883 |

&lt;210&gt; 2952

&lt;211&gt; 441

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2952

```

ctggtggaat tcgaagcaaa ggggtgtagct gatgtgcaga ttgggattga atgtgggaat      60
gagggtgtga tgggagtgat tggaaatatt gcagccctgc atagtctcca tcagggatgt      120
gacaaagtgg ataatctcta ccacgtgaga aacttccaac attacttgca aatcagattt      180
aatgaataaa ataaagctgt agcacttggc acattcattg ggacccttac ccaaacatta      240
tcaatattgt gtacgttatc tttattatca ggtcacaaaa gatgtcataa aagaatttgc      300
agatgacggc gtcaagtacc tggaactaag gagcacaccc agaagagaaa atgctactgg      360
aatgactaaa aagacttatg tggaatctat acttgaagggt ataaaacagt ccaaacaaga      420
aaacttggac attgatgtta g                                     441

```

&lt;210&gt; 2953

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(106)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2953

```

Ile Ser Glu His Arg Ile Glu Ala Ser Gly Asn Tyr Leu Ala Gln Arg
 1           5           10           15
Leu Thr Ser Ser Phe Leu Arg Gly Leu Ser Ser Trp Lys Ser Asn Pro
          20           25           30
Leu Met Leu Cys Gly Trp Thr Ile Leu Leu Thr Leu Thr Met Val Gln
          35           40           45
Gly Glu Pro Xaa Gly Pro Lys Gly Ile Pro Gly Phe His Thr Asn Ser
          50           55           60
Ser Tyr Pro His Trp Gly Thr Val Ala Lys Pro Pro Ala Gly Asp Xaa
          65           70           75           80
Asp Leu Leu Pro Ala Pro Gly Gln Glu Gly Thr Pro Leu Phe Thr Arg
          85           90           95
Xaa Ser Leu Cys Thr Tyr Cys Pro Ile Asp
          100           105 106

```

&lt;210&gt; 2954

&lt;211&gt; 150

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2954

```

Arg Glu Glu Leu Gly Lys Asp Leu Phe Asp Cys Thr Leu Tyr Val Leu
 1           5           10           15
Leu Lys Tyr Asp Asp Phe Asn Ala Asp Lys His Leu Ala Leu Glu Glu
          20           25           30
Phe Tyr Arg Ala Phe Gln Val Ile Gln Leu Ser Leu Pro Glu Asp Gln
          35           40           45
Lys Leu Ser Ile Thr Ala Ala Thr Val Gly Gln Ser Ala Val Leu Ser
          50           55           60
Cys Ala Ile Gln Gly Thr Leu Arg Pro Pro Ile Ile Trp Lys Arg Asn
          65           70           75           80
Asn Ile Ile Leu Asn Asn Leu Asp Leu Glu Asp Ile Asn Asp Phe Gly
          85           90           95
Asp Asp Gly Ser Leu Tyr Ile Thr Lys Val Thr Thr Thr His Val Gly
          100           105           110
Asn Tyr Thr Cys Tyr Ala Asp Gly Tyr Glu Gln Val Tyr Gln Thr His

```

```
<210> 2955
<211> 58
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(58)
<223> Xaa = any amino acid or nothing
```

```
<210> 2956
<211> 164
<212> PRT
<213> Homo sapiens
```

```
<210> 2957
<211> 133
```

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2957

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | Thr | Gly | Val | Arg | Glu | Lys | Arg | Arg | Glu | Arg | Met | Lys | Glu | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Trp | Gln | Asn | Val | Leu | Cys | Cys | Thr | Leu | Gln | Thr | Ala | Val | Ile | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Leu | Phe | Gln | Asn | Lys | Val | Leu | Asn | Ile | Leu | Lys | Asn | Phe | Phe | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Pro | Leu | Asp | Thr | Arg | Lys | Asn | Lys | Val | Phe | Lys | Lys | Trp | Ala | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Pro | Gly | Ala | Val | Ala | His | Ala | Cys | Asn | Pro | Ser | Thr | Leu | Gly | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Gly | Gly | Arg | Ile | Thr | Lys | Ser | Gly | Asp | Arg | Asp | His | Pro | Gly | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| His | Gly | Glu | Thr | Arg | Ser | Leu | Pro | Ala | Cys | Trp | Ala | Gln | Trp | Lys | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Leu | Ala | Leu | Pro | Val | Ser | Arg | Ala | Pro | Gly | Arg | Gln | Gly | Ser | Leu | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Phe | Pro | Leu | Pro |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 130 |     |     | 133 |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 2958

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2958

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Thr | Lys | Cys | Lys | Ala | Asp | Cys | Asp | Thr | Cys | Phe | Asn | Lys | Asn | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Thr | Lys | Cys | Lys | Ser | Gly | Phe | Tyr | Leu | His | Leu | Gly | Lys | Cys | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Asn | Cys | Pro | Glu | Gly | Leu | Glu | Ala | Asn | Asn | His | Thr | Met | Glu | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Ser | Ile | Val | His | Cys | Glu | Val | Ser | Glu | Trp | Asn | Pro | Trp | Ser | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Cys | Thr | Lys | Lys | Gly | Lys | Thr | Cys | Gly | Phe | Lys | Arg | Gly | Thr | Glu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Val | Arg | Glu | Ile | Ile | Gln | His | Pro | Ser | Ala | Lys | Gly | Asn | Leu | Cys |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Pro | Thr | Asn | Glu | Thr | Arg | Lys | Cys | Thr | Val | Gln | Arg | Lys | Lys | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Lys | Gly | Glu | Arg | Gly | Lys | Lys | Gly | Arg | Glu | Arg | Lys | Arg | Lys | Lys |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Pro | Asn | Lys | Gly | Glu | Ser | Lys | Glu | Ala | Ile | Pro | Asp | Ser | Lys | Ser | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Ser | Ser | Lys | Glu | Ile | Pro | Glu | Gln | Arg | Glu | Asn | Lys | Gln | Gln | Gln |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |

&lt;210&gt; 2959

&lt;211&gt; 142

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature



&lt;222&gt; (1)...(141)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2959

```

Leu Ser Met Leu Ser Thr Ile Ser Thr Glu His Arg Leu Ser Val Leu
 1           5           10           15
Trp Pro Ile Trp Tyr Cys Cys His Cys Pro Thr His Leu Ser Ala Val
          20           25           30
Met Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Gln Ser Ile Leu Glu
          35           40           45
Trp Met Phe Cys Ser Phe Leu Phe Ser Asp Val Asp Ser Asp Asn Trp
          50           55           60
Cys Gln Ile Leu Asp Phe Leu Thr Ala Val Trp Leu Ile Phe Leu Ile
 65           70           75           80
Leu Val Leu Cys Gly Phe Thr Leu Val Leu Leu Val Arg Ile Ile Cys
          85           90           95
Gly Ser Gln Lys Met Pro Leu Thr Arg Leu Tyr Val Thr Ile Leu Leu
          100          105          110
Thr Gly Leu Val Phe Leu Phe Cys Ser Leu Pro Leu Ser Ile Gln Xaa
          115          120          125
Phe Leu Leu Tyr Trp Ile Glu Lys Asp Leu Asp Asp Leu
 130           135           140 141

```

&lt;210&gt; 2960

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(115)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2960

```

Glu Lys Arg Lys Thr Ser Tyr Ser Gln Cys Leu Asn Ser Lys Gln Arg
 1           5           10           15
Asn Val Ser Met Arg Pro Ser Ile Trp Ile His Val His Leu Lys Pro
          20           25           30
Pro Cys Arg Leu Val Glu Leu Leu Pro Phe Ser Ser Ala Leu Gln Gly
          35           40           45
Leu Ser His Leu Ser Leu Gly Thr Thr Leu Pro Val Xaa Gly His Leu
          50           55           60
Arg Phe Arg Leu Arg Asn Leu Pro Gln Ser Leu Arg Thr Val Ile Leu
 65           70           75           80
Pro Glu Arg Asn Glu Glu Gln Asn Leu Gln Glu Leu Ser His Asn Ala
          85           90           95
Asp Lys Tyr Gln Met Gly Asp Cys Cys Lys Glu Glu Ile Asp Asp Ser
          100          105          110
Ile Phe Tyr
          115

```

&lt;210&gt; 2961

&lt;211&gt; 659

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(657)

&lt;223&gt; Xaa = any amino acid or nothing

<400> 2961

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Lys | Gly | Lys | Val | Lys | Asp | Ala | Gly | Ala | Glu | Gln | Trp | Ile | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser | Leu | Ser | Cys | Lys | Gly | Ser | Trp | Glu | Thr | Gln | Phe | Ser | Asn | His | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Ser | Leu | Thr | Pro | Pro | Thr | Ser | Val | Arg | Arg | Met | Pro | Leu | Ile | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Thr | Val | Thr | Leu | Leu | Lys | Met | Val | Ala | Arg | His | His | Met | Lys | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Cys | Ser | Lys | Ala | Phe | Ser | Thr | Gln | Leu | Gln | Gln | Lys | Ile | Phe | Leu | His |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Ser | Gln | Met | Gly | Ile | His | His | Gln | Ser | Val | Cys | Met | Lys | Leu | Lys | Pro |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asn | Thr | Ser | His | Ile | Ile | Ser | Ile | Leu | Met | Gly | Gln | Pro | Met | Ala | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Gln | Leu | Glu | Thr | Leu | Ala | Pro | Leu | Thr | Ile | Ile | Ile | Gln | Lys | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Gln | Thr | Gln | Asp | His | Met | Lys | Phe | Trp | Lys | Asn | Leu | Pro | Leu | His | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | His | Leu | Thr | Pro | Ser | Val | Pro | Gln | Thr | Val | Ile | Pro | Lys | Lys | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Ser | Pro | Glu | Ile | Lys | Leu | Lys | Ile | Thr | Lys | Thr | Ile | Gln | Asn | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Glu | Leu | Phe | Glu | Ser | Ser | Leu | Cys | Gly | Asp | Leu | Leu | Asn | Glu | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Ala | Ser | Glu | Gln | Xaa | Asn | Gln | Ser | Ile | Glu | Ser | Arg | Lys | Glu | Lys |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Arg | Lys | Lys | Ser | Asn | Lys | His | Asp | Ser | Ser | Arg | Ser | Glu | Glu | Arg | Lys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | His | Lys | Ile | Pro | Lys | Leu | Glu | Pro | Glu | Glu | Gln | Asn | Arg | Pro | Asn |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Arg | Val | Asp | Thr | Val | Ser | Glu | Lys | Pro | Arg | Glu | Glu | Pro | Val | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Glu | Gly | Ser | Pro | Ser | Ser | Ala | Asn | Thr | Ile | Phe | Cys | Ser | Asn | Asn |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gly | Ser | Val | His | Trp | Phe | Lys | Phe | Gln | Val | Gly | Asp | Leu | Val | Trp | Ser |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Lys | Val | Gly | Thr | Tyr | Pro | Trp | Trp | Pro | Cys | Met | Val | Ser | Ser | Asp | Pro |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gln | Leu | Glu | Val | His | Thr | Lys | Ile | Asn | Thr | Arg | Gly | Ala | Arg | Glu | Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| His | Val | Gln | Phe | Phe | Ser | Asn | Gln | Pro | Glu | Arg | Ala | Trp | Val | His | Glu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Arg | Val | Arg | Glu | Tyr | Lys | Gly | His | Lys | Gln | Tyr | Glu | Glu | Leu | Leu |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Glu | Ala | Thr | Lys | Gln | Ala | Ser | Asn | His | Ser | Glu | Lys | Gln | Lys | Ile |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Arg | Lys | Pro | Arg | Pro | Gln | Arg | Glu | Arg | Ala | Gln | Trp | Asp | Ile | Gly | Ile |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Ala | His | Ala | Glu | Lys | Ala | Leu | Lys | Met | Thr | Arg | Glu | Glu | Arg | Ile | Glu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Gln | Tyr | Thr | Phe | Ile | Tyr | Ile | Asp | Lys | Gln | Pro | Glu | Glu | Ala | Leu | Ser |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Gln | Ala | Lys | Lys | Ser | Val | Ala | Ser | Lys | Thr | Glu | Val | Lys | Lys | Thr | Arg |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Arg | Pro | Arg | Ser | Val | Leu | Asn | Thr | Gln | Pro | Glu | Gln | Thr | Asn | Ala | Gly |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |
| Glu | Val | Ala | Ser | Ser | Leu | Ser | Ser | Thr | Glu | Ile | Arg | Arg | His | Ser | Gln |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Arg | Arg | His | Thr | Ser | Ala | Glu | Glu | Glu | Glu | Pro | Pro | Pro | Val | Lys | Ile |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Ala | Trp | Lys | Thr | Ala | Ala | Ala | Arg | Lys | Ser | Leu | Pro | Ala | Ser | Ile | Thr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Met | His | Lys | Gly | Ser | Leu | Asp | Leu | Gln | Lys | Cys | Asn | Met | Ser | Pro | Val |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Val | Lys | Ile | Glu | Gln | Val | Phe | Ala | Leu | Gln | Asn | Ala | Thr | Gly | Asp | Gly |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Lys | Phe | Ile | Asp | Gln | Phe | Val | Tyr | Ser | Thr | Lys | Gly | Ile | Gly | Asn | Lys |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Thr | Glu | Ile | Ser | Val | Arg | Gly | Gln | Asp | Arg | Leu | Ile | Ile | Ser | Thr | Pro |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Asn | Gln | Arg | Asn | Glu | Lys | Pro | Thr | Gln | Ser | Val | Ser | Ser | Pro | Glu | Ala |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Thr | Ser | Gly | Ser | Thr | Gly | Ser | Val | Glu | Lys | Lys | Gln | Gln | Arg | Arg | Ser |  |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Ile | Arg | Thr | Arg | Ser | Glu | Ser | Glu | Lys | Ser | Thr | Glu | Val | Val | Pro | Lys |  |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |     |  |  |
| Lys | Lys | Ile | Lys | Lys | Glu | Gln | Val | Glu | Thr | Val | Pro | Gln | Ala | Thr | Val |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Lys | Thr | Gly | Leu | Gln | Lys | Gly | Ser | Ala | Asp | Arg | Gly | Val | Gln | Gly | Ser |  |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     |     |     | 640 |  |  |
| Val | Arg | Phe | Ser | Asp | Ser | Ser | Val | Ser | Ala | Ala | Ile | Glu | Glu | Thr | Val |  |  |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     |     |     | 655 |     |  |  |
| Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 657 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 2962

&lt;211&gt; 534

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(520)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2962

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ser | Ala | Ser | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Ser | Arg | Phe | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Phe | Ser | Gly | Ala | Pro | Gly | Ala | Arg | Asp | Arg | Ser | Gly | Pro | Leu | Gly | Ser |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Glu | Pro | Gln | Arg | Asn | Pro | Gly | Ala | Arg | Pro | Arg | Thr | Leu | Glu | Ala | Thr |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Val | Thr | Pro | Pro | Gly | Ser | Val | Gly | Ala | Met | Ser | Ser | Ser | Gly | Leu | Asn |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Glu | Lys | Val | Ala | Ala | Leu | Ile | Gln | Lys | Leu | Asn | Ser | Asp | Pro | Gln |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Phe | Val | Leu | Ala | Gln | Asn | Val | Gly | Thr | Thr | His | Asp | Leu | Leu | Asp | Ile |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Cys | Leu | Lys | Arg | Ala | Thr | Val | Gln | Arg | Ala | Gln | His | Val | Phe | Gln | His |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ala | Val | Pro | Gln | Glu | Gly | Lys | Pro | Ile | Thr | Asn | Gln | Lys | Ser | Ser | Gly |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Arg | Cys | Trp | Ile | Phe | Ser | Cys | Leu | Asn | Val | Met | Arg | Leu | Pro | Phe | Met |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Lys | Lys | Leu | Asn | Ile | Glu | Glu | Phe | Glu | Phe | Ser | Gln | Ser | Tyr | Leu | Phe |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Phe | Trp | Asp | Lys | Val | Glu | Arg | Cys | Tyr | Phe | Phe | Leu | Ser | Ala | Phe | Val |  |  |
|     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Asp | Thr | Ala | Gln | Arg | Lys | Glu | Pro | Glu | Asp | Gly | Arg | Leu | Val | Gln | Phe |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |  |  |
| Leu | Leu | Met | Asn | Pro | Ala | Asn | Asp | Gly | Gly | Gln | Trp | Asp | Met | Leu | Val |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Asn | Ile | Val | Glu | Lys | Tyr | Gly | Val | Ile | Pro | Lys | Lys | Cys | Phe | Pro | Glu |  |  |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Ser Tyr Thr Thr Glu Ala Thr Arg Arg Met Asn Asp Ile Leu Asn His |     |     |
| 225   | 230 | 235 |
| Lys Met Arg Glu Phe Cys Ile Arg Leu Arg Asn Leu Val His Ser Gly |     | 240 |
|   | 245 | 250 |
| Ala Thr Lys Gly Glu Ile Ser Ala Thr Gln Asp Val Met Met Glu Glu |     | 255 |
|   | 260 | 265 |
| Ile Phe Arg Val Val Cys Ile Cys Leu Gly Asn Pro Pro Glu Thr Phe |     | 270 |
|   | 275 | 280 |
| Thr Trp Glu Tyr Arg Asp Lys Asp Lys Asn Asn Lys Lys Ile Gly Pro |     | 285 |
|   | 290 | 295 |
| Ile Thr Pro Leu Glu Phe Asn Arg Glu Gln His Val Lys Pro Leu Phe |     | 300 |
| 305   | 310 | 315 |
| Asn Met Glu Asp Lys Ile Cys Leu Val Asn Asp Pro Arg Pro Gln His |     | 320 |
|   | 325 | 330 |
| Lys Tyr Asn Lys Leu Tyr Thr Val Glu Tyr Leu Ser Asn Met Val Trp |     | 335 |
|   | 340 | 345 |
| Arg Gly Glu Lys Leu Phe Tyr Asn Asn Gln Pro Ile Asp Phe Leu Lys |     | 350 |
|   | 355 | 360 |
| Lys Met Val Ala Ala Ser Ile Lys Asp Gly Glu Ala Val Trp Phe Gly |     | 365 |
|   | 370 | 375 |
| Cys Asp Val Gly Lys His Phe Asn Ser Lys Leu Gly Leu Ser Asp Met |     | 380 |
| 385   | 390 | 395 |
| Asn Leu Tyr Asp His Glu Leu Val Phe Gly Val Ser Leu Lys Asn Met |     | 400 |
|   | 405 | 410 |
| Asn Lys Ala Glu Arg Leu Thr Phe Gly Glu Ser Leu Met Thr His Thr |     | 415 |
|   | 420 | 425 |
| Met Thr Phe Thr Ala Val Ser Gln Ser Arg Asp Asp Ser Gly Met Val |     | 430 |
|   | 435 | 440 |
| Leu Phe Thr Lys Trp Arg Val Gly Glu Phe Gln Trp Gly Glu Asp His |     | 445 |
|   | 450 | 455 |
| Gly His Lys Gly Tyr Leu Cys Met Thr Asp Xaa Val Gly Ser Leu Glu |     | 460 |
| 465   | 470 | 475 |
| Tyr Val Tyr Glu Val Val Val Trp Asp Arg Lys His Val Pro Glu Glu |     | 480 |
|   | 485 | 490 |
| Val Leu Ala Val Leu Gly Ala Gly Asn Pro Phe Val Leu Pro Ala Trp |     | 495 |
|   | 500 | 505 |
| Asp Pro Met Gly Ala Leu Ala Glu                                 |     | 510 |
|   | 515 | 520 |

&lt;210&gt; 2963

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(150)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2963

|   |    |
|---|----|
| Arg His Tyr Asp Ser Ala Gly Lys Ile Thr Leu Lys Ile Ala Lys Asn |    |
| 1   | 5  |
| Tyr Leu Glu Gln Arg Ala Val Gly Gly Ala Ser Pro Arg Leu Ala Gln |    |
|   | 20 |
| Ser Val Leu Thr Cys Ser Arg Glu Pro Ile Leu Glu Asn Ser Leu Thr |    |
|   | 35 |
| Ser Leu Ile Glu Tyr Leu His Asn Ala Leu Glu His Asp Met Arg Leu |    |
|   | 50 |
| Arg Phe Asn Asn Asp Arg Met Lys Thr Thr Ile Lys Glu Thr Ser Thr |    |
|   | 65 |
| Xaa Leu Ser Asn Ser Tyr Leu Val Phe Pro Leu Met Xaa Ser Leu Thr |    |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Tyr | Leu | Met | Lys | Met | Ser | Phe | Glu | Arg | Cys | Thr | Ala | Arg | Asn | Lys | Met |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Phe | Val | Asn | Ser | Pro | Phe | Thr | Lys | Val | Asp | Asn | Tyr | Cys | Thr | Ser | Ser |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Trp | Lys | Lys | Phe | Tyr | Leu | Lys | Cys | Tyr | Phe | Ser | Leu | Asn | Thr | Ile | Lys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Lys | Glu | Lys | Lys | Met | Thr |     |     |     |     |     |     |     |     |     |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 2964

&lt;211&gt; 821

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(817)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2964

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Asp | Thr | Tyr | Arg | Gly | Leu | Pro | Ser | Ile | Ser | Asn | Gly | Asn | Tyr | Ser |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gln | Leu | Gln | Phe | Gln | Ala | Arg | Glu | Tyr | Ser | Gly | Ala | Pro | Tyr | Ser | Gln |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Ile | Ser | Ala | Ile | Thr | Thr | Val | Ser | Val | Ala | Trp | Lys | Val | Leu | Ser |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Lys | Ile | Gly | Glu | Gly | Ala | Glu | Gly | Asn | Cys | Lys | Cys | Val | Ile | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Glu | Gly | Ala | Trp | Ala | Val | Cys | Pro | Thr | Gln | Pro | Cys | Gly | Lys | Ala | Lys |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Pro | Asp | Lys | His | Leu | Lys | Asp | Leu | Leu | Ser | Lys | Leu | Leu | Asn | Ser | Gly |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Tyr | Phe | Glu | Ser | Ile | Pro | Val | Pro | Lys | Asn | Ala | Lys | Glu | Lys | Glu | Val |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Pro | Leu | Glu | Glu | Glu | Met | Leu | Ile | Gln | Ser | Glu | Lys | Lys | Thr | Gln | Leu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ser | Lys | Thr | Glu | Ser | Val | Lys | Glu | Ser | Glu | Ser | Leu | Met | Glu | Phe | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gln | Pro | Glu | Ile | Gln | Pro | Gln | Glu | Phe | Leu | Asn | Arg | Arg | Tyr | Met | Thr |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Glu | Val | Asp | Tyr | Ser | Asn | Lys | Gln | Gly | Glu | Glu | Gln | Pro | Trp | Glu | Ala |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Asp | Tyr | Ala | Arg | Lys | Pro | Asn | Leu | Pro | Lys | Arg | Trp | Asp | Met | Leu | Thr |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Glu | Pro | Asp | Gly | Gln | Glu | Lys | Lys | Gln | Glu | Ser | Phe | Lys | Ser | Trp | Glu |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ala | Ser | Gly | Lys | His | Gln | Glu | Val | Ser | Lys | Pro | Ala | Val | Ser | Leu | Glu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Gln | Arg | Lys | Gln | Asp | Thr | Ser | Lys | Leu | Arg | Ser | Thr | Leu | Pro | Glu | Glu |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gln | Lys | Lys | Gln | Glu | Ile | Ser | Lys | Ser | Lys | Pro | Ser | Pro | Ser | Gln | Trp |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Lys | Gln | Asp | Thr | Pro | Lys | Ser | Lys | Ala | Gly | Tyr | Val | Gln | Glu | Glu | His |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Lys | Lys | Gln | Glu | Thr | Pro | Lys | Leu | Trp | Pro | Val | Gln | Leu | Gln | Lys | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Gln | Asp | Pro | Lys | Lys | Gln | Thr | Pro | Lys | Ser | Trp | Thr | Pro | Ser | Met | Gln |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ser | Glu | Gln | Asn | Thr | Thr | Lys | Ser | Trp | Thr | Thr | Pro | Met | Cys | Glu | Glu |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Gln | Asp | Ser | Lys | Gln | Pro | Glu | Thr | Pro | Lys | Ser | Trp | Glu | Asn | Asn | Val |  |  |

Trp  
817

<210> 2965  
 <211> 821  
 <212> PRT  
 <213> Homo sapiens  
  
 <221> misc\_feature  
 <222> (1)...(817)  
 <223> Xaa = any amino acid or nothing

<400> 2965  
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 Gln Leu Gln Phe Gln Ala Arg Glu Tyr Ser Gly Ala Pro Tyr Ser Gln  
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 Arg Ile Ser Ala Ile Thr Thr Val Ser Val Ala Trp Lys Val Leu Ser  
 35 40 45  
 Gly Lys Ile Gly Glu Gly Ala Glu Gly Asn Cys Lys Cys Val Ile Ser  
 50 55 60  
 Glu Gly Ala Trp Ala Val Cys Pro Thr Gln Pro Cys Gly Lys Ala Lys  
 65 70 75 80  
 Pro Asp Lys His Leu Lys Asp Leu Leu Ser Lys Leu Leu Asn Ser Gly  
 85 90 95  
 Tyr Phe Glu Ser Ile Pro Val Pro Lys Asn Ala Lys Glu Lys Glu Val  
 100 105 110  
 Pro Leu Glu Glu Met Leu Ile Gln Ser Glu Lys Lys Thr Gln Leu  
 115 120 125  
 Ser Lys Thr Glu Ser Val Lys Glu Ser Glu Ser Leu Met Glu Phe Ala  
 130 135 140  
 Gln Pro Glu Ile Gln Pro Gln Glu Phe Leu Asn Arg Arg Tyr Met Thr  
 145 150 155 160  
 Glu Val Asp Tyr Ser Asn Lys Gln Gly Glu Gln Pro Trp Glu Ala  
 165 170 175  
 Asp Tyr Ala Arg Lys Pro Asn Leu Pro Lys Arg Trp Asp Met Leu Thr  
 180 185 190  
 Glu Pro Asp Gly Gln Glu Lys Lys Gln Glu Ser Phe Lys Ser Trp Glu  
 195 200 205  
 Ala Ser Gly Lys His Gln Glu Val Ser Lys Pro Ala Val Ser Leu Glu  
 210 215 220  
 Gln Arg Lys Gln Asp Thr Ser Lys Leu Arg Ser Thr Leu Pro Glu Glu  
 225 230 235 240  
 Gln Lys Lys Gln Glu Ile Ser Lys Ser Lys Pro Ser Pro Ser Gln Trp  
 245 250 255  
 Lys Gln Asp Thr Pro Lys Ser Lys Ala Gly Tyr Val Gln Glu Glu His  
 260 265 270  
 Lys Lys Gln Glu Thr Pro Lys Leu Trp Pro Val Gln Leu Gln Lys Glu  
 275 280 285  
 Gln Asp Pro Lys Lys Gln Thr Pro Lys Ser Trp Thr Pro Ser Met Gln  
 290 295 300  
 Ser Glu Gln Asn Thr Thr Lys Ser Trp Thr Thr Pro Met Cys Glu Glu  
 305 310 315 320  
 Gln Asp Ser Lys Gln Pro Glu Thr Pro Lys Ser Trp Glu Asn Asn Val  
 325 330 335  
 Glu Ser Gln Lys His Ser Leu Thr Ser Gln Ser Gln Ile Ser Pro Lys  
 340 345 350  
 Ser Trp Gly Val Ala Thr Ala Ser Leu Ile Pro Asn Asp Gln Leu Leu  
 355 360 365  
 Pro Arg Lys Leu Asn Thr Glu Pro Lys Asp Val Pro Ile Ala Cys Ala  
 370 375 380  
 Ser Ala Xaa Gly Phe Leu Pro Leu Gln Pro Pro Phe Arg Arg Ile His  
 385 390 395 400  
 Val Leu Arg Lys Glu Lys Leu Gln Asp Leu Met Thr Gln Ile Gln Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 415 |     |     |  |  |
| Thr | Cys | Asn | Phe | Met | Gln | Glu | Ser | Val | Leu | Asp | Phe | Asp | Lys | Pro | Ser |  |  |
|     |     |     | 420 |     |     |     |     |     | 425 |     |     |     | 430 |     |     |  |  |
| Ser | Ala | Ile | Pro | Thr | Ser | Gln | Pro | Pro | Ser | Ala | Thr | Pro | Gly | Xaa | Pro |  |  |
|     |     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |  |  |
| Arg | Arg | His | Leu | Lys | Glu | Gln | Asn | Leu | Ser | Val | Lys | Val | Ile | Phe | Phe |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Gln | Gly | Ala | Val | Thr | Val | Phe | Asn | Val | Asn | Ala | Pro | Leu | Pro | Pro | Arg |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Lys | Glu | Gln | Glu | Ile | Lys | Glu | Ser | Pro | Tyr | Ser | Pro | Gly | Tyr | Asn | Gln |  |  |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     | 495 |     |     |  |  |
| Ser | Phe | Thr | Thr | Ala | Ser | Thr | Gln | Thr | Pro | Pro | Gln | Cys | Gln | Leu | Pro |  |  |
|     |     |     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     |     |  |  |
| Ser | Ile | His | Val | Glu | Gln | Thr | Val | His | Ser | Gln | Glu | Thr | Ala | Asn | Tyr |  |  |
|     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |     |  |  |
| His | Pro | Asp | Gly | Thr | Ile | Gln | Val | Ser | Asn | Gly | Ser | Leu | Ala | Phe | Tyr |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Pro | Ala | Gln | Thr | Asn | Val | Phe | Pro | Arg | Pro | Thr | Gln | Pro | Phe | Val | Asn |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Ser | Arg | Gly | Ser | Val | Arg | Gly | Cys | Thr | Arg | Gly | Gly | Arg | Leu | Ile | Thr |  |  |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     | 575 |     |     |  |  |
| Asn | Ser | Tyr | Arg | Ser | Pro | Gly | Gly | Tyr | Lys | Gly | Phe | Asp | Thr | Tyr | Arg |  |  |
|     |     |     | 580 |     |     |     |     |     | 585 |     |     |     | 590 |     |     |  |  |
| Gly | Leu | Pro | Ser | Ile | Ser | Asn | Gly | Asn | Tyr | Ser | Gln | Leu | Gln | Phe | Gln |  |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Ala | Arg | Glu | Tyr | Ser | Gly | Ala | Pro | Tyr | Ser | Gln | Arg | Asp | Asn | Phe | Gln |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Gln | Cys | Tyr | Lys | Arg | Gly | Gly | Thr | Ser | Gly | Gly | Pro | Arg | Ala | Asn | Ser |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Arg | Ala | Gly | Trp | Ser | Asp | Ser | Ser | Gln | Val | Ser | Ser | Pro | Glu | Arg | Asp |  |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     | 655 |     |     |  |  |
| Asn | Glu | Thr | Phe | Asn | Ser | Gly | Asp | Ser | Gly | Gln | Gly | Asp | Ser | Arg | Ser |  |  |
|     |     |     | 660 |     |     |     |     |     | 665 |     |     |     | 670 |     |     |  |  |
| Met | Thr | Pro | Val | Asp | Val | Pro | Val | Thr | Asn | Pro | Ala | Ala | Thr | Ile | Leu |  |  |
|     | 675 |     |     |     |     |     |     | 680 |     |     |     | 685 |     |     |     |  |  |
| Pro | Val | His | Val | Tyr | Pro | Leu | Pro | Gln | Gln | Met | Arg | Val | Ala | Phe | Ser |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Ala | Ala | Arg | Thr | Ser | Asn | Leu | Ala | Pro | Gly | Thr | Leu | Asp | Gln | Pro | Ile |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Val | Phe | Asp | Leu | Leu | Asn | Asn | Leu | Gly | Glu | Thr | Phe | Asp | Leu | Gln |     |  |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     | 735 |     |     |  |  |
| Leu | Gly | Arg | Phe | Asn | Cys | Pro | Val | Asn | Gly | Thr | Tyr | Val | Phe | Ile | Phe |  |  |
|     |     |     | 740 |     |     |     |     |     | 745 |     |     |     | 750 |     |     |  |  |
| His | Met | Leu | Lys | Leu | Ala | Val | Asn | Val | Pro | Leu | Tyr | Val | Asn | Leu | Met |  |  |
|     | 755 |     |     |     |     |     |     |     | 760 |     |     |     | 765 |     |     |  |  |
| Lys | Asn | Glu | Glu | Val | Leu | Val | Ser | Ala | Tyr | Ala | Asn | Asp | Gly | Ala | Pro |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Asp | His | Glu | Thr | Ala | Ser | Asn | His | Ala | Ile | Leu | Gln | Leu | Phe | Gln | Gly |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Asp | Gln | Ile | Trp | Leu | Arg | Leu | His | Arg | Gly | Ala | Ile | Tyr | Gly | Ser | Ser |  |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     | 815 |     |     |  |  |
| Trp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 817 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 2966

&lt;211&gt; 494

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(489)

&lt;223&gt; Xaa = any amino acid or nothing



<400> 2966

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Tyr | Val | Leu | Thr | Ala | Glu | Leu | His | Arg | Gln | Arg | Ser | Pro | Gly | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Phe | Gly | Leu | Ser | Val | Phe | Asn | Leu | Met | Asn | Ala | Ile | Met | Gly | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ile | Leu | Gly | Leu | Ala | Tyr | Val | Met | Ala | Asn | Thr | Gly | Val | Phe | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Phe | Ser | Phe | Leu | Leu | Leu | Thr | Val | Ala | Leu | Leu | Ala | Ser | Tyr | Ser | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Leu | Leu | Leu | Ser | Met | Cys | Ile | Gln | Thr | Ala | Tyr | Leu | Gly | Pro | Xaa |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Asn | Tyr | Phe | Met | Val | Leu | Pro | Ala | His | Xaa | Leu | Thr | Cys | Leu | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Ile | Glu | Phe | Leu | Gln | Ser | Leu | Xaa | Asn | Ser | Leu | Xaa | Ala | Val | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Tyr | Glu | Asp | Leu | Gly | Leu | Phe | Ala | Phe | Gly | Leu | Pro | Gly | Lys | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Val | Val | Ala | Gly | Thr | Ile | Ile | Ile | Gln | Asn | Ile | Gly | Ala | Met | Ser | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Leu | Leu | Ile | Ile | Lys | Thr | Glu | Leu | Pro | Ala | Ala | Ile | Ala | Glu | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Thr | Gly | Asp | Tyr | Ser | Arg | Tyr | Trp | Tyr | Leu | Asp | Gly | Gln | Thr | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Leu | Ile | Ile | Ile | Cys | Val | Gly | Ile | Val | Phe | Pro | Leu | Ala | Leu | Leu | Pro |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Ile | Gly | Phe | Leu | Gly | Tyr | Thr | Ser | Ser | Leu | Ser | Phe | Phe | Phe | Met |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Met | Phe | Phe | Ala | Leu | Val | Val | Ile | Ile | Lys | Lys | Trp | Ser | Ile | Pro | Cys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Leu | Thr | Leu | Asn | Tyr | Val | Glu | Lys | Gly | Phe | Gln | Ile | Ser | Asn | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Thr | Asp | Asp | Cys | Lys | Pro | Lys | Leu | Phe | His | Phe | Ser | Lys | Glu | Ser | Ala |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Ala | Leu | Pro | Thr | Met | Ala | Phe | Ser | Phe | Leu | Cys | His | Thr | Ser | Ile |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Pro | Ile | Tyr | Cys | Glu | Leu | Gln | Ser | Pro | Ser | Lys | Lys | Arg | Met | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Asn | Val | Thr | Asn | Thr | Ala | Ile | Ala | Leu | Ser | Phe | Leu | Ile | Tyr | Phe | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Ala | Leu | Phe | Gly | Tyr | Leu | Thr | Phe | Tyr | Asp | Gly | Thr | Thr | Lys | Ala |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Arg | Gly | Glu | Val | Thr | Cys | His | Arg | Ile | Lys | Asp | Lys | Val | Glu | Ser |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Glu | Leu | Leu | Lys | Gly | Xaa | Xaa | Xaa | Ile | Pro | Xaa | Ser | His | Asp | Val | Val |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Met | Thr | Val | Lys | Leu | Cys | Ile | Leu | Phe | Ala | Val | Leu | Leu | Thr | Val |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Pro | Leu | Ile | His | Phe | Pro | Ala | Arg | Lys | Ala | Val | Thr | Met | Met | Phe | Phe |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ser | Asn | Phe | Pro | Phe | Ser | Trp | Ile | Arg | His | Phe | Leu | Ile | Thr | Leu | Ala |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Asn | Ile | Ile | Ile | Val | Leu | Leu | Ala | Ile | Tyr | Val | Pro | Asp | Ile | Arg |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asn | Val | Phe | Gly | Val | Val | Gly | Ala | Ser | Thr | Ser | Thr | Cys | Leu | Ile | Phe |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ile | Phe | Pro | Gly | Leu | Phe | Tyr | Leu | Lys | Leu | Ser | Arg | Glu | Asp | Phe | Leu |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ser | Trp | Lys | Lys | Leu | Gly | Val | Gly | Cys | Phe | Cys | Leu | Leu | Ser | Phe | Lys |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Thr | Ser | Ile | Leu | Arg | Asn | Ser | Leu | Ser | Val | Tyr | Ile | Ile | Leu | Pro | Ala |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Ser | Arg | Lys | Ser | Ile | Tyr | Phe | Lys | Ile |     |     |     |     |     |     |     |

<210> 2967  
 <211> 1076  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(1072)  
 <223> Xaa = any amino acid or nothing

<400> 2967  
 Ser Gly Ile Val Val Arg Ala Leu Trp Arg Glu Lys Lys Pro Gly Gly  
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 Gly Arg Arg Val Lys Arg Arg Asn Pro Gly Arg Gln Ala Val Gly His  
 20 25 30  
 Thr Glu Glu Asp Pro Pro Arg Val Gly Thr Pro Trp Lys Glu His Thr  
 35 40 45  
 Gly Pro Gly Pro Gln Glu Gly Ser Thr Met Glu Ala Ala His Ala Lys  
 50 55 60  
 Thr Thr Glu Glu Cys Leu Ala Tyr Phe Gly Val Ser Glu Thr Thr Gly  
 65 70 75 80  
 Leu Thr Pro Asp Gln Val Lys Arg Asn Leu Glu Lys Tyr Gly Leu Asn  
 85 90 95  
 Glu Leu Pro Ala Glu Glu Gly Lys Thr Leu Trp Glu Leu Val Ile Glu  
 100 105 110  
 Gln Phe Glu Asp Leu Leu Val Arg Ile Leu Leu Leu Ala Ala Cys Ile  
 115 120 125  
 Ser Phe Val Leu Ala Trp Phe Glu Glu Gly Glu Glu Thr Ile Thr Ala  
 130 135 140  
 Phe Val Glu Pro Phe Val Ile Leu Leu Ile Leu Ile Ala Asn Ala Ile  
 145 150 155 160  
 Val Gly Val Trp Gln Glu Arg Asn Ala Glu Asn Ala Ile Glu Ala Leu  
 165 170 175  
 Lys Glu Tyr Glu Pro Glu Met Gly Lys Val Tyr Arg Ala Asp Arg Lys  
 180 185 190  
 Ser Val Gln Arg Ile Lys Ala Arg Asp Ile Val Pro Gly Asp Ile Val  
 195 200 205  
 Glu Val Ala Val Gly Asp Lys Val Pro Ala Asp Ile Arg Ile Leu Ala  
 210 215 220  
 Ile Lys Ser Thr Thr Leu Arg Val Asp Gln Ser Ile Leu Thr Gly Glu  
 225 230 235 240  
 Tyr Val Ser Val Ile Lys His Thr Glu Pro Val Pro Asp Pro Arg Ala  
 245 250 255  
 Val Asn Gln Asp Lys Lys Asn Met Leu Phe Ser Gly Thr Asn Ile Ala  
 260 265 270  
 Ala Gly Lys Ala Leu Gly Ile Val Ala Thr Thr Gly Val Gly Thr Glu  
 275 280 285  
 Ile Gly Lys Ile Arg Asp Gln Met Ala Ala Thr Glu Gln Asp Lys Thr  
 290 295 300  
 Pro Leu Gln Gln Lys Leu Asp Glu Phe Gly Glu Gln Leu Ser Lys Val  
 305 310 315 320  
 Ile Ser Leu Ile Cys Val Ala Val Trp Leu Ile Asn Ile Gly His Phe  
 325 330 335  
 Asn Asp Pro Val His Gly Gly Ser Trp Phe Arg Gly Ala Ile Tyr Tyr  
 340 345 350  
 Phe Lys Ile Ala Val Ala Leu Ala Val Ala Ala Ile Pro Glu Gly Leu  
 355 360 365  
 Pro Ala Val Ile Thr Thr Cys Leu Ala Leu Gly Thr Arg Arg Met Ala  
 370 375 380  
 Lys Lys Asn Ala Ile Val Arg Ser Leu Pro Ser Val Glu Thr Leu Gly

|                 |   |     |  |     |  |     |
|-----------------|---|-----|--|-----|--|-----|
| 385             |   | 390 |  | 395 |  | 400 |
| Cys Thr Ser Val | Ile Cys Ser Asp Lys Thr Gly Thr Leu Thr Thr Asn |     |  |     |  |     |
|                 | 405   |     |  | 410 |  | 415 |
| Gln Met Ser Val | Cys Lys Met Phe Ile Ile Asp Lys Val Asp Gly Asp |     |  |     |  |     |
|                 | 420   |     |  | 425 |  | 430 |
| Ile Cys Leu Leu | Asn Glu Phe Ser Ile Thr Gly Ser Thr Tyr Ala Pro |     |  |     |  |     |
|                 | 435   |     |  | 440 |  | 445 |
| Glu Gly Glu Val | Leu Lys Asn Asp Lys Pro Val Arg Pro Gly Gln Tyr |     |  |     |  |     |
|                 | 450   |     |  | 455 |  | 460 |
| Asp Gly Leu Val | Glu Leu Ala Thr Ile Cys Ala Leu Cys Asn Asp Ser |     |  |     |  |     |
| 465             | 470   |     |  | 475 |  | 480 |
| Ser Leu Asp Phe | Asn Glu Ala Lys Gly Val Tyr Glu Lys Val Gly Glu |     |  |     |  |     |
|                 | 485   |     |  | 490 |  | 495 |
| Ala Thr Glu Thr | Ala Leu Thr Thr Leu Val Glu Lys Met Asn Val Phe |     |  |     |  |     |
|                 | 500   |     |  | 505 |  | 510 |
| Asn Thr Asp Val | Arg Ser Leu Ser Lys Val Glu Arg Ala Asn Ala Cys |     |  |     |  |     |
|                 | 515   |     |  | 520 |  | 525 |
| Asn Ser Val Ile | Arg Gln Leu Met Lys Lys Glu Phe Thr Leu Glu Phe |     |  |     |  |     |
|                 | 530   |     |  | 535 |  | 540 |
| Ser Arg Asp Arg | Lys Ser Met Ser Val Tyr Cys Ser Pro Ala Lys Ser |     |  |     |  |     |
| 545             | 550   |     |  | 555 |  | 560 |
| Ser Arg Ala Ala | Val Gly Asn Lys Met Phe Val Lys Gly Ala Pro Glu |     |  |     |  |     |
|                 | 565   |     |  | 570 |  | 575 |
| Gly Val Ile Asp | Arg Cys Asn Tyr Val Arg Val Gly Thr Thr Arg Val |     |  |     |  |     |
|                 | 580   |     |  | 585 |  | 590 |
| Pro Leu Thr Gly | Pro Val Lys Glu Lys Ile Met Ala Val Ile Lys Glu |     |  |     |  |     |
|                 | 595   |     |  | 600 |  | 605 |
| Trp Gly Thr Gly | Arg Asp Thr Leu Arg Cys Leu Ala Leu Ala Thr Arg |     |  |     |  |     |
|                 | 610   |     |  | 615 |  | 620 |
| Asp Thr Pro Pro | Lys Arg Glu Glu Met Val Leu Asp Asp Ser Ala Arg |     |  |     |  |     |
| 625             | 630   |     |  | 635 |  | 640 |
| Phe Leu Glu Tyr | Glu Thr Asp Leu Thr Phe Val Gly Val Val Gly Met |     |  |     |  |     |
|                 | 645   |     |  | 650 |  | 655 |
| Leu Asp Pro Pro | Arg Lys Glu Val Thr Gly Ser Ile Gln Leu Cys Arg |     |  |     |  |     |
|                 | 660   |     |  | 665 |  | 670 |
| Asp Ala Gly Ile | Arg Val Ile Met Ile Thr Gly Asp Asn Lys Gly Thr |     |  |     |  |     |
|                 | 675   |     |  | 680 |  | 685 |
| Ala Ile Ala Ile | Cys Arg Arg Ile Gly Ile Phe Gly Glu Asn Glu Glu |     |  |     |  |     |
|                 | 690   |     |  | 695 |  | 700 |
| Val Ala Asp Arg | Ala Tyr Thr Gly Arg Glu Phe Asp Asp Leu Pro Leu |     |  |     |  |     |
| 705             | 710   |     |  | 715 |  | 720 |
| Ala Glu Gln Arg | Glu Ala Cys Arg Arg Ala Cys Cys Phe Ala Arg Val |     |  |     |  |     |
|                 | 725   |     |  | 730 |  | 735 |
| Glu Pro Ser His | Lys Ser Lys Ile Val Glu Tyr Leu Gln Ser Tyr Asp |     |  |     |  |     |
|                 | 740   |     |  | 745 |  | 750 |
| Glu Ile Thr Ala | Met Thr Gly Asp Gly Val Asn Asp Ala Pro Ala Leu |     |  |     |  |     |
|                 | 755   |     |  | 760 |  | 765 |
| Lys Lys Ala Glu | Ile Gly Ile Ala Met Gly Ser Gly Thr Ala Val Ala |     |  |     |  |     |
|                 | 770   |     |  | 775 |  | 780 |
| Lys Thr Ala Ser | Glu Met Val Leu Ala Asp Asp Asn Phe Ser Thr Ile |     |  |     |  |     |
| 785             | 790   |     |  | 795 |  | 800 |
| Val Ala Ala Val | Glu Glu Gly Arg Ala Ile Tyr Asn Asn Met Lys Gln |     |  |     |  |     |
|                 | 805   |     |  | 810 |  | 815 |
| Phe Ile Arg Tyr | Leu Ile Ser Ser Asn Val Gly Glu Val Val Cys Ile |     |  |     |  |     |
|                 | 820   |     |  | 825 |  | 830 |
| Phe Leu Thr Ala | Ala Leu Gly Leu Pro Glu Ala Leu Ile Pro Val Gln |     |  |     |  |     |
|                 | 835   |     |  | 840 |  | 845 |
| Leu Leu Trp Val | Asn Leu Val Thr Asp Gly Leu Pro Ala Thr Ala Leu |     |  |     |  |     |
|                 | 850   |     |  | 855 |  | 860 |
| Gly Phe Asn Pro | Pro Asp Leu Asp Ile Met Asp Arg Pro Pro Arg Ser |     |  |     |  |     |
| 865             | 870   |     |  | 875 |  | 880 |
| Pro Lys Glu Pro | Leu Ile Ser Gly Trp Leu Phe Phe Arg Tyr Met Ala |     |  |     |  |     |
|                 | 885   |     |  | 890 |  | 895 |
| Ile Gly Gly Tyr | Val Gly Ala Ala Thr Val Gly Ala Ala Ala Trp Trp |     |  |     |  |     |

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          900          905          910
Phe Leu Tyr Ala Glu Asp Gly Pro His Val Asn Tyr Ser Gln Leu Thr
          915          920          925
His Phe Met Gln Cys Thr Glu Asp Asn Thr His Phe Glu Gly Ile Asp
          930          935          940
Cys Glu Val Phe Glu Ala Pro Glu Pro Met Thr Met Ala Leu Ser Val
945          950          955          960
Leu Val Thr Ile Glu Met Cys Asn Ala Leu Asn Ser Leu Ser Glu Asn
          965          970          975
Gln Ser Leu Leu Arg Met Pro Pro Trp Val Asn Ile Trp Leu Leu Gly
          980          985          990
Ser Ile Cys Leu Ser Met Ser Leu His Phe Leu Ile Leu Tyr Val Asp
          995          1000          1005
Pro Leu Pro Met Ile Phe Lys Leu Arg Ala Leu Asp Leu Thr Gln Trp
          1010          1015          1020
Leu Met Val Leu Lys Ile Ser Leu Pro Val Ile Gly Leu Asp Glu Ile
1025          1030          1035          1040
Leu Lys Phe Val Ala Arg Asn Tyr Leu Glu Gly Xaa Leu Phe Pro Leu
          1045          1050          1055
Leu His Leu Xaa Ala Arg Val Thr Asp Pro Glu Asp Glu Arg Arg Lys
          1060          1065          1070          1072

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&lt;210&gt; 2968

&lt;211&gt; 804

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(803)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2968

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Gly Ala Arg Ser Cys Ser Arg Leu Gly Arg Cys Thr Phe Pro Leu Trp
 1          5          10          15
Lys Gly Arg Glu Met Glu Val Arg Lys Leu Ser Ile Ser Trp Gln Phe
          20          25          30
Leu Ile Val Leu Val Leu Ile Leu Gln Ile Leu Ser Ala Leu Asp Phe
          35          40          45
Asp Pro Tyr Arg Val Leu Gly Val Ser Arg Thr Ala Ser Gln Ala Asp
          50          55          60
Ile Lys Lys Ala Tyr Lys Lys Leu Ala Arg Glu Trp His Pro Asp Lys
          65          70          75          80
Asn Lys Asp Pro Gly Ala Glu Asp Lys Phe Ile Gln Ile Ser Lys Ala
          85          90          95
Tyr Glu Ile Leu Ser Asn Glu Glu Lys Arg Ser Asn Tyr Asp Gln Tyr
          100          105          110
Gly Asp Ala Gly Glu Asn Gln Gly Tyr Gln Lys Gln Gln Gln Arg
          115          120          125
Glu Tyr Arg Phe Arg His Phe His Glu Asn Phe Tyr Phe Asp Glu Ser
          130          135          140
Phe Phe His Phe Pro Phe Asn Ser Glu Arg Arg Asp Ser Ile Asp Glu
145          150          155          160
Lys Tyr Leu Leu His Phe Ser His Tyr Val Asn Glu Val Ala Pro Asp
          165          170          175
Ser Phe Lys Lys Pro Tyr Leu Ile Lys Ile Thr Ser Asp Trp Cys Phe
          180          185          190
Ser Cys Ile His Ile Glu Pro Val Trp Lys Glu Val Ile Gln Glu Leu
          195          200          205
Glu Glu Leu Gly Val Gly Ile Gly Val Val His Ala Gly Tyr Glu Arg

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|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Arg Leu Ala His His Leu Gly Ala His Ser Thr Pro Ser Ile Leu Gly |     |     |
| 225   | 230 | 235 |
| Ile Ile Asn Gly Lys Ile Ser Phe Phe His Asn Ala Val Val Arg Glu |     | 240 |
|   | 245 | 250 |
| Asn Leu Arg Gln Phe Val Glu Ser Leu Leu Pro Gly Asn Leu Val Glu |     | 255 |
|   | 260 | 265 |
| Lys Val Thr Asn Lys Asn Tyr Val Arg Phe Leu Ser Gly Trp Gln Gln |     | 270 |
|   | 275 | 280 |
| Glu Asn Lys Pro His Val Leu Leu Phe Asp Gln Thr Pro Ile Val Pro |     | 285 |
|   | 290 | 295 |
| Leu Leu Tyr Lys Leu Thr Ala Phe Ala Tyr Lys Asp Tyr Leu Ser Phe |     | 300 |
| 305   | 310 | 315 |
| Gly Tyr Val Tyr Val Gly Leu Arg Gly Thr Glu Glu Met Thr Arg Arg |     | 320 |
|   | 325 | 330 |
| Tyr Asn Ile Asn Ile Tyr Ala Pro Thr Leu Leu Val Phe Lys Glu His |     | 335 |
|   | 340 | 345 |
| Ile Asn Arg Pro Ala Asp Val Ile Gln Ala Arg Gly Met Lys Lys Gln |     | 350 |
|   | 355 | 360 |
| Ile Ile Asp Asp Phe Ile Thr Arg Asn Lys Tyr Leu Leu Ala Ala Arg |     | 365 |
|   | 370 | 375 |
| Leu Thr Ser Gln Lys Leu Phe His Glu Leu Cys Pro Val Lys Arg Ser |     | 380 |
| 385   | 390 | 395 |
| His Arg Gln Arg Lys Tyr Cys Val Val Leu Leu Thr Ala Glu Thr Thr |     | 400 |
|   | 405 | 410 |
| Lys Leu Ser Lys Pro Phe Glu Ala Phe Leu Ser Phe Ala Leu Ala Asn |     | 415 |
|   | 420 | 425 |
| Thr Gln Asp Thr Val Arg Phe Val His Val Tyr Ser Asn Arg Gln Gln |     | 430 |
|   | 435 | 440 |
| Glu Phe Ala Asp Thr Leu Leu Pro Asp Ser Glu Ala Phe Gln Gly Lys |     | 445 |
|   | 450 | 455 |
| Ser Ala Val Ser Ile Leu Glu Arg Arg Asn Thr Ala Gly Arg Val Val |     | 460 |
| 465   | 470 | 475 |
| Tyr Lys Thr Leu Glu Asp Pro Trp Ile Gly Ser Glu Ser Asp Lys Phe |     | 480 |
|   | 485 | 490 |
| Ile Leu Leu Gly Tyr Leu Asp Gln Leu Arg Lys Asp Pro Ala Leu Leu |     | 495 |
|   | 500 | 505 |
| Ser Ser Glu Ala Val Leu Pro Asp Leu Thr Asp Glu Leu Ala Pro Val |     | 510 |
|   | 515 | 520 |
| Phe Leu Leu Arg Trp Phe Tyr Ser Ala Ser Asp Tyr Ile Ser Asp Cys |     | 525 |
|   | 530 | 535 |
| Trp Asp Ser Ile Phe His Asn Asn Trp Arg Glu Met Met Pro Leu Leu |     | 540 |
| 545   | 550 | 555 |
| Ser Leu Ile Phe Ser Ala Leu Phe Ile Leu Phe Gly Thr Val Ile Val |     | 560 |
|   | 565 | 570 |
| Gln Ala Phe Ser Asp Ser Asn Asp Glu Arg Glu Ser Ser Pro Pro Glu |     | 575 |
|   | 580 | 585 |
| Lys Glu Glu Ala Gln Glu Lys Thr Gly Lys Thr Glu Pro Ser Phe Thr |     | 590 |
|   | 595 | 600 |
| Lys Glu Asn Ser Ser Lys Ile Pro Lys Lys Gly Phe Val Glu Val Thr |     | 605 |
|   | 610 | 615 |
| Glu Leu Thr Asp Val Thr Tyr Thr Ser Asn Leu Val Arg Leu Arg Pro |     | 620 |
| 625   | 630 | 635 |
| Gly His Met Asn Val Val Leu Ile Leu Ser Asn Ser Thr Lys Thr Ser |     | 640 |
|   | 645 | 650 |
| Leu Leu Gln Lys Phe Ala Leu Glu Val Tyr Thr Phe Thr Gly Ser Ser |     | 655 |
|   | 660 | 665 |
| Cys Leu His Phe Ser Phe Leu Ser Leu Asp Lys His Arg Glu Trp Leu |     | 670 |
|   | 675 | 680 |
| Glu Tyr Leu Leu Glu Phe Ala Gln Asp Ala Ala Pro Ile Pro Asn Gln |     | 685 |
|   | 690 | 695 |
| Tyr Asp Lys His Phe Met Glu Arg Asp Tyr Thr Gly Tyr Val Leu Ala |     | 700 |
| 705   | 710 | 715 |
| Leu Asn Gly His Lys Lys Tyr Phe Cys Leu Phe Lys Pro Gln Lys Thr |     | 720 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Val | Glu | Glu | Gly | Gly | Lys | Pro | Xaa | Gly | Ser | Cys | Ser | Asp | Val | Asp | Ser |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Ser | Leu | Tyr | Leu | Gly | Glu | Ser | Arg | Gly | Lys | Pro | Ser | Cys | Gly | Leu | Gly |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |
| Ser | Arg | Pro | Ile | Lys | Gly | Lys | Leu | Ser | Lys | Leu | Ser | Leu | Trp | Met | Glu |  |  |
|     |     | 770 |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Arg | Leu | Leu | Glu | Gly | Ser | Leu | Gln | Arg | Phe | Tyr | Ile | Pro | Ser | Trp | Pro |  |  |
| 785 |     |     |     |     | 790 |     |     |     | 795 |     |     |     |     |     | 800 |  |  |
| Glu | Leu | Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 803 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 2969

&lt;211&gt; 359

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (357)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2969

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Lys | Gly | Leu | Ser | Pro | Asp | Gln | Val | Leu | Ser | Ala | Phe | Ala | Pro | Leu | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Cys | Glu | Met | Trp | Leu | Lys | Val | Phe | Thr | Thr | Phe | Leu | Ser | Phe | Ala | Thr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gly | Ala | Cys | Ser | Gly | Leu | Lys | Val | Thr | Val | Pro | Ser | His | Thr | Val | His |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Val | Arg | Gly | Gln | Ala | Leu | Tyr | Leu | Pro | Val | His | Tyr | Gly | Phe | His |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Thr | Pro | Ala | Ser | Asp | Ile | Gln | Ile | Ile | Trp | Leu | Phe | Glu | Arg | Pro | His |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Thr | Met | Pro | Lys | Tyr | Leu | Leu | Gly | Ser | Val | Asn | Lys | Ser | Val | Val | Pro |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Asp | Tyr | Gly | Ile | Pro | Tyr | Thr | Ser | Ser | Pro | Xaa | Cys | His | Pro | Met | Ala |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ser | Leu | Leu | Ile | Asn | Pro | Leu | Gln | Phe | Pro | Asp | Glu | Gly | Asn | Tyr | Ile |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Lys | Val | Asn | Ile | Gln | Gly | Asn | Gly | Thr | Leu | Ser | Ala | Ser | Gln | Lys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |
| Ile | Gln | Val | Thr | Val | Asp | Asp | Pro | Val | Thr | Lys | Pro | Val | Val | Gln | Ile |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| His | Pro | Pro | Ser | Gly | Ala | Val | Glu | Tyr | Val | Gly | Asn | Met | Thr | Leu | Thr |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Cys | His | Val | Glu | Gly | Gly | Thr | Arg | Leu | Ala | Tyr | Gln | Trp | Leu | Lys | Asn |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gly | Arg | Pro | Val | His | Thr | Ser | Ser | Thr | Tyr | Ser | Phe | Ser | Pro | Gln | Asn |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Asn | Thr | Leu | His | Ile | Ala | Pro | Val | Thr | Lys | Glu | Asp | Ile | Gly | Asn | Tyr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ser | Cys | Leu | Val | Arg | Asn | Pro | Val | Ser | Glu | Met | Glu | Ser | Asp | Ile | Ile |  |  |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |  |  |
| Met | Pro | Ile | Ile | Tyr | Tyr | Gly | Pro | Tyr | Gly | Leu | Gln | Val | Asn | Ser | Asp |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Lys | Gly | Leu | Lys | Val | Gly | Glu | Val | Phe | Thr | Val | Asp | Leu | Gly | Glu | Ala |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ile | Leu | Phe | Asp | Cys | Ser | Ala | Asp | Ser | His | Pro | Pro | Asn | Thr | Tyr | Ser |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Trp | Ile | Arg | Arg | Thr | Asp | Asn | Thr | Thr | Tyr | Ile | Ile | Lys | His | Gly | Pro |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Arg | Leu | Glu | Val | Ala | Ser | Glu | Lys | Val | Ala | Gln | Lys | Thr | Met | Asp | Tyr |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Val | Cys | Cys | Ala | Tyr | Asn | Asn | Ile | Thr | Gly | Arg | Gln | Asp | Glu | Thr | His |
|     |     | 325 |     |     |     | 330 |     |     |     |     |     |     |     | 335 |     |
| Phe | Thr | Val | Ile | Ile | Thr | Ser | Val | Gly | Met | Cys | Asp | Ile | Gln | Gly | Arg |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Asp | Pro | Asn | Lys | Thr |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 355 |     | 357 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 2970

&lt;211&gt; 291

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(289)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2970

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Ser | Ala | Leu | Leu | Thr | His | Ser | Ser | Phe | Cys | Val | Phe | Thr | Leu | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Asp | Phe | Phe | Thr | Tyr | Ser | Ser | Met | Ser | Glu | Glu | Val | Thr | Tyr | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Asp | Leu | Gln | Phe | Gln | Asn | Ser | Ser | Glu | Met | Glu | Lys | Ile | Pro | Glu | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gly | Lys | Phe | Gly | Glu | Lys | Ala | Pro | Pro | Ala | Pro | Ser | His | Val | Trp | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Ala | Ala | Leu | Phe | Leu | Thr | Leu | Leu | Cys | Leu | Leu | Leu | Leu | Ile | Gly |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Gly | Val | Leu | Ala | Ser | Met | Phe | His | Val | Thr | Leu | Lys | Ile | Glu | Met |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Lys | Met | Asn | Lys | Leu | Gln | Asn | Ile | Ser | Glu | Glu | Leu | Gln | Arg | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Ser | Leu | Gln | Leu | Met | Ser | Asn | Met | Asn | Ile | Ser | Asn | Lys | Ile | Arg |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asn | Leu | Ser | Thr | Thr | Leu | Gln | Thr | Ile | Ala | Thr | Lys | Leu | Cys | Arg | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Leu | Tyr | Ser | Lys | Glu | Gln | Glu | His | Lys | Cys | Lys | Pro | Cys | Pro | Arg | Arg |
|     | 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Trp | Ile | Trp | His | Lys | Asp | Ser | Cys | Tyr | Phe | Leu | Ser | Asp | Asp | Val | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Thr | Trp | Gln | Glu | Ser | Lys | Met | Ala | Cys | Ala | Ala | Gln | Asn | Ala | Ser | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Leu | Lys | Ile | Asn | Asn | Lys | Asn | Ala | Leu | Glu | Phe | Ile | Lys | Ser | Gln | Ser |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Ser | Tyr | Asp | Tyr | Trp | Leu | Gly | Leu | Ser | Pro | Glu | Glu | Asp | Ser | Tyr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Trp | Tyr | Glu | Ser | Gly | Xaa | Tyr | Asn | Gln | Pro | Ser | Ala | Trp | Val | Ile |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Arg | Asn | Ala | Pro | Asp | Leu | Asn | Asn | Met | Tyr | Cys | Gly | Tyr | Ile | Asn | Arg |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Leu | Tyr | Val | Gln | Tyr | Tyr | His | Cys | Thr | Tyr | Lys | Gln | Arg | Met | Ile | Cys |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Glu | Lys | Met | Ala | Asn | Pro | Val | Gln | Leu | Gly | Ser | Thr | Tyr | Phe | Arg | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 289 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 2971

&lt;211&gt; 460

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(458)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 2971

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Asn | Tyr | Leu | Pro | Ser | Val | Ser | Ser | Ala | Ile | Gly | Gly | Glu | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Gln | Arg | Tyr | Val | Trp | Arg | Phe | Cys | Ile | Gly | Leu | His | Ser | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Phe | Leu | Val | Ala | Phe | Ala | Tyr | Trp | Asn | His | Tyr | Leu | Ser | Cys | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Pro | Cys | Ser | Cys | Tyr | Arg | Pro | Leu | Cys | Arg | Leu | Asn | Phe | Gly | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Val | Val | Glu | Asn | Leu | Ala | Leu | Leu | Val | Leu | Thr | Tyr | Val | Ser | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Glu | Asp | Phe | Thr | Trp | Val | Pro | Gly | Xaa | Gly | Arg | Ser | Gly | Glu | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Pro | Glu | Gly | Thr | Gly | Leu | Pro | Leu | Pro | His | Ser | Asp | Leu | Pro | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Trp | Cys | Gly | His | Ser | Leu | Gln | Cys | Gly | Ser | Gln | Ser | Ser | Phe | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Ala | Ile | His | Glu | Asn | Ala | Phe | Ile | Val | Phe | Ile | Ala | Ser | Ser | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Gly | His | Met | Leu | Leu | Thr | Cys | Ile | Leu | Trp | Arg | Leu | Thr | Lys | Lys | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Val | Ser | Gln | Glu | Asp | Gly | Leu | Ser | Leu | Ala | Gly | Ala | Pro | Arg | Gln |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Arg | Arg | Lys | Ser | Arg | Thr | Ser | Val | Leu | Arg | Ile | Arg | Val | Met | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Trp | Glu | Leu | Ser | Ser | Asn | Gly | Asn | Pro | Gly | Arg | Gly | Val | Leu | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Gly | Leu | Gly | Leu | Gly | Asn | Lys | Leu | Arg | Val | Val | Gly | Gln | Asn | Leu |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | Leu | Xaa | His | Cys | Val | Trp | Val | Val | Trp | Glu | Thr | Gly | Glu | Xaa | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Trp | Arg | Leu | Gln | Met | Gly | Ile | Glu | Xaa | Gly | Val | Ala | Ser | Arg | Arg |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Xaa | Val | Arg | Asn | Ser | Val | Arg | Gly | Leu | Val | Cys | His | Asn | Ser | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Pro | Pro | Met | Tyr | Met | Gly | Phe | Phe | Ser | Pro | Thr | Val | Phe | Gly | Gly |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Val | Gly | Gly | Xaa | Leu | His | Val | Thr | Phe | Ile | Leu | His | Pro | Pro | Glu |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Glu | Ala | Ala | Gly | Ile | Pro | Leu | Leu | Leu | Gly | Pro | Ser | Leu | Pro | Gln |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Arg | Gln | Gly | Arg | Glu | His | Ile | Val | Val | Ile | Leu | Ala | Ala | Pro | Ala | Cys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ala | Pro | Phe | His | Asp | Arg | Xaa | Trp | Glu | Pro | Arg | Glu | Ile | Arg | Pro | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Pro | Xaa | Glu | Leu | Gly | Leu | Arg | Gly | Glu | Pro | Thr | Leu | Ser | Tyr | Pro | Ala |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Cys | Arg | Val | Ile | Arg | Gln | Pro | Ile | Pro | Xaa | Asp | Arg | Lys | Ser | Tyr |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ser | Trp | Lys | Gln | Arg | Leu | Phe | Ile | Ile | Asn | Phe | Ile | Ser | Phe | Phe | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ala | Leu | Ala | Val | Tyr | Phe | Arg | His | Asn | Met | Tyr | Cys | Glu | Ala | Gly | Val |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Tyr | Thr | Ile | Phe | Ala | Ile | Leu | Glu | Tyr | Thr | Val | Val | Leu | Thr | Asn | Met |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ala | Phe | His | Met | Thr | Ala | Trp | Trp | Asp | Phe | Gly | Asn | Lys | Glu | Leu | Leu |



435  
 Ile Thr Ser Gln Pro Glu Glu Lys Arg Phe  
 450 455 458

<210> 2972  
 <211> 498  
 <212> PRT  
 <213> Homo sapiens

<400> 2972  
 Gly Gly Ile Leu Ser Gly Arg Asp Gly Arg Thr Ala Leu Pro Arg Pro  
 1 5 10 15  
 Arg Glu Pro Ala Glu Arg Thr Ala Gly Leu Arg Arg Asp Met Arg Pro  
 20 25 30  
 Gln Glu Leu Pro Arg Leu Ala Phe Pro Leu Leu Leu Leu Leu Leu  
 35 40 45  
 Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr Arg Phe Asp  
 50 55 60  
 Pro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala Trp Phe Asp  
 65 70 75 80  
 Gln Ala Lys Phe Gly Ile Phe Ile His Trp Gly Val Phe Ser Val Pro  
 85 90 95  
 Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys Glu Lys Ile  
 100 105 110  
 Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro Ser Phe Lys  
 115 120 125  
 Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe Asn Ala Asn  
 130 135 140  
 Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr Ile Val Leu  
 145 150 155 160  
 Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser Glu Tyr Ser  
 165 170 175  
 Trp Asn Trp Asn Ala Ile Asp Glu Gly Pro Lys Arg Asp Ile Val Lys  
 180 185 190  
 Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg Phe Gly Leu  
 195 200 205  
 Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu Glu Asp Glu  
 210 215 220  
 Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys Thr Leu Pro  
 225 230 235 240  
 Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val Leu Trp Ser  
 245 250 255  
 Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser Thr Gly Phe  
 260 265 270  
 Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr Val Val Thr  
 275 280 285  
 Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly Gly Phe Tyr  
 290 295 300  
 Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro His Lys Trp  
 305 310 315 320  
 Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr Arg Arg Glu  
 325 330 335  
 Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val Lys Gln Leu  
 340 345 350  
 Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn Ile Gly Pro  
 355 360 365  
 Thr Leu Asp Gly Thr Ile Ser Val Val Phe Glu Glu Arg Leu Arg Gln  
 370 375 380  
 Met Gly Ser Trp Leu Lys Val Asn Gly Glu Ala Ile Tyr Glu Thr His  
 385 390 395 400  
 Thr Trp Arg Ser Gln Asn Asp Thr Val Thr Pro Asp Val Trp Tyr Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 415 |     |     |  |  |
| Ser | Lys | Pro | Lys | Glu | Lys | Leu | Val | Tyr | Ala | Ile | Phe | Leu | Lys | Trp | Pro |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Thr | Ser | Gly | Gln | Leu | Phe | Leu | Gly | His | Pro | Lys | Ala | Ile | Leu | Gly | Ala |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Thr | Glu | Val | Lys | Leu | Leu | Gly | His | Gly | Gln | Pro | Leu | Asn | Trp | Ile | Ser |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Leu | Glu | Gln | Asn | Gly | Ile | Met | Val | Glu | Leu | Pro | Gln | Leu | Thr | Ile | His |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Gln | Met | Pro | Cys | Lys | Trp | Gly | Trp | Ala | Leu | Ala | Leu | Thr | Asn | Val | Ile |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 | 496 |  |  |

&lt;210&gt; 2973

&lt;211&gt; 370

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2973

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ser | Val | Pro | Arg | Ala | Gly | Gly | Asp | Met | Glu | Thr | Gly | Ala | Ala | Glu | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Tyr | Asp | Gln | Ala | Leu | Leu | Gly | Ile | Leu | Gln | His | Val | Gly | Asn | Val | Gln |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Asp | Phe | Leu | Arg | Val | Leu | Phe | Gly | Phe | Leu | Tyr | Arg | Lys | Thr | Asp | Phe |  |  |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Tyr | Arg | Leu | Leu | Arg | His | Pro | Ser | Asp | Arg | Met | Gly | Phe | Pro | Pro | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ala | Ala | Gln | Ala | Leu | Val | Leu | Gln | Val | Phe | Lys | Thr | Phe | Asp | His | Met |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Arg | Gln | Asp | Asp | Glu | Lys | Arg | Arg | Gln | Glu | Leu | Glu | Glu | Lys | Ile |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Arg | Arg | Lys | Glu | Glu | Glu | Glu | Ala | Lys | Thr | Val | Ser | Ala | Ala | Ala | Ala |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Lys | Glu | Pro | Val | Pro | Val | Pro | Val | Gln | Glu | Ile | Glu | Ile | Asp | Ser |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Thr | Thr | Glu | Leu | Asp | Gly | His | Gln | Glu | Val | Glu | Lys | Val | Gln | Pro | Pro |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Pro | Val | Lys | Glu | Met | Ala | His | Gly | Ser | Gln | Glu | Ala | Glu | Ala | Pro |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gly | Ala | Val | Ala | Gly | Ala | Ala | Glu | Val | Pro | Arg | Glu | Pro | Pro | Ile | Leu |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Pro | Arg | Ile | Gln | Glu | Gln | Phe | Gln | Lys | Asn | Pro | Asp | Ser | Tyr | Asn | Gly |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ala | Val | Arg | Glu | Asn | Tyr | Thr | Trp | Ser | Gln | Asp | Tyr | Thr | Asp | Leu | Glu |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Val | Arg | Val | Pro | Val | Pro | Lys | His | Val | Val | Lys | Gly | Lys | Gln | Val | Ser |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Val | Ala | Leu | Ser | Ser | Ser | Ser | Ile | Arg | Val | Ala | Met | Leu | Glu | Glu | Asp |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Glu | Arg | Val | Leu | Met | Glu | Gly | Lys | Leu | Thr | His | Lys | Ile | Asn | Thr |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Glu | Ser | Ser | Leu | Trp | Ser | Leu | Glu | Pro | Gly | Lys | Cys | Val | Leu | Val | Asn |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Leu | Ser | Lys | Val | Gly | Glu | Tyr | Trp | Trp | Asn | Ala | Ile | Leu | Glu | Gly | Glu |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Glu | Pro | Ile | Asp | Ile | Asp | Lys | Ile | Asn | Lys | Glu | Arg | Ser | Met | Ala | Thr |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Val | Asp | Glu | Glu | Glu | Gln | Ala | Val | Leu | Asp | Arg | Leu | Thr | Phe | Asp | Tyr |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| His | Gln | Lys | Leu | Gln | Gly | Lys | Pro | Gln | Ser | His | Glu | Leu | Lys | Val | His |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Glu | Met | Leu | Lys | Lys | Gly | Trp | Asp | Ala | Glu | Gly | Ser | Pro | Phe | Arg | Gly |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Gln | Arg | Phe | Asp | Pro | Ala | Met | Phe | Asn | Ile | Ser | Pro | Gly | Ala | Val | Gln |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 369 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 2974  
 <211> 528  
 <212> PRT  
 <213> Homo sapiens

<400> 2974

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Gln | Phe | Gly | Arg | Ala | His | Gly | Asp | Cys | Val | Ser | Gly | Ala | Gln | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Cys | Gly | Cys | Pro | Ser | Met | Asp | Asp | Tyr | Met | Val | Leu | Arg | Met | Ile | Gly |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Glu | Gly | Ser | Phe | Gly | Arg | Ala | Leu | Leu | Val | Gln | His | Glu | Ser | Ser | Asn |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gln | Met | Phe | Ala | Met | Lys | Glu | Ile | Arg | Leu | Pro | Lys | Ser | Phe | Ser | Asn |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Thr | Gln | Asn | Ser | Arg | Lys | Glu | Ala | Val | Leu | Leu | Ala | Lys | Met | Lys | His |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Pro | Asn | Ile | Val | Ala | Phe | Lys | Glu | Ser | Phe | Glu | Ala | Glu | Gly | His | Leu |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Tyr | Ile | Val | Met | Glu | Tyr | Cys | Asp | Gly | Gly | Asp | Leu | Met | Gln | Lys | Ile |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Lys | Gln | Gln | Lys | Gly | Lys | Leu | Phe | Pro | Glu | Asp | Met | Ile | Leu | Asn | Trp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Phe | Thr | Gln | Met | Cys | Leu | Gly | Val | Asn | His | Ile | His | Lys | Lys | Arg | Val |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | His | Arg | Asp | Ile | Lys | Ser | Lys | Asn | Ile | Phe | Leu | Thr | Gln | Asn | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Lys | Gly | Lys | Leu | Gly | Asp | Phe | Gly | Ser | Ala | Arg | Leu | Leu | Ser | Asn | Pro |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Met | Ala | Phe | Ala | Cys | Thr | Tyr | Val | Gly | Thr | Pro | Tyr | Tyr | Val | Pro | Pro |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Glu | Ile | Trp | Glu | Asn | Leu | Pro | Tyr | Asn | Asn | Lys | Ser | Asp | Ile | Trp | Ser |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Leu | Gly | Cys | Ile | Leu | Tyr | Glu | Leu | Cys | Thr | Leu | Lys | His | Pro | Phe | Gln |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ala | Asn | Ser | Trp | Lys | Asn | Leu | Ile | Leu | Lys | Val | Cys | Gln | Gly | Cys | Ile |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Ser | Pro | Leu | Pro | Ser | His | Tyr | Ser | Tyr | Glu | Leu | Gln | Phe | Leu | Val | Lys |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Gln | Met | Phe | Lys | Arg | Asn | Pro | Ser | His | Arg | Pro | Ser | Ala | Thr | Thr | Leu |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Leu | Ser | Arg | Gly | Ile | Val | Ala | Arg | Leu | Val | Gln | Lys | Cys | Leu | Pro | Pro |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Glu | Ile | Ile | Met | Glu | Tyr | Gly | Glu | Glu | Val | Leu | Glu | Glu | Ile | Lys | Asn |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ser | Lys | His | Asn | Thr | Pro | Arg | Lys | Lys | Thr | Asn | Pro | Ser | Arg | Ile | Arg |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Ile | Ala | Leu | Gly | Asn | Glu | Ala | Ser | Thr | Val | Gln | Glu | Glu | Glu | Gln | Asp |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Arg | Lys | Gly | Ser | His | Thr | Asp | Leu | Glu | Ser | Ile | Asn | Glu | Asn | Leu | Val |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Glu | Ser | Ala | Leu | Arg | Arg | Val | Asn | Arg | Glu | Glu | Lys | Gly | Asn | Lys | Ser |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Val | His | Leu | Arg | Lys | Ala | Ser | Ser | Pro | Asn | Leu | His | Arg | Arg | Gln | Trp |  |  |

|   |     |     |
|---|-----|-----|
| 370   | 375 | 380 |
| Glu Lys Asn Val Pro Asn Thr Ala Leu Thr Ala Leu Glu Asn Ala Ser |     |     |
| 385   | 390 | 395 |
| Ile Leu Thr Ser Ser Leu Thr Ala Glu Asp Asp Arg Gly Gly Ser Val |     | 400 |
|   | 405 | 410 |
| Ile Lys Tyr Ser Lys Asn Thr Thr Arg Lys Gln Trp Leu Lys Glu Thr |     | 415 |
|   | 420 | 425 |
| Pro Asp Thr Leu Leu Asn Ile Leu Lys Asn Ala Asp Leu Ser Leu Ala |     | 430 |
|   | 435 | 440 |
| Phe Gln Thr Tyr Thr Ile Tyr Arg Pro Gly Ser Glu Gly Phe Leu Lys |     | 445 |
|   | 450 | 455 |
| Gly Pro Leu Ser Glu Glu Thr Glu Ala Ser Asp Ser Val Asp Gly Gly |     | 460 |
| 465   | 470 | 475 |
| His Asp Ser Val Ile Leu Asp Pro Glu Arg Leu Glu Pro Gly Leu Asp |     | 480 |
|   | 485 | 490 |
| Glu Glu Asp Thr Asp Phe Glu Glu Glu Asp Asp Asn Pro Asp Trp Val |     | 495 |
|   | 500 | 505 |
| Ser Glu Leu Lys Lys Arg Ala Gly Trp Gln Gly Leu Cys Asp Arg     |     | 510 |
|   | 515 | 520 |
|   |     | 525 |
|   |     | 527 |

&lt;210&gt; 2975

&lt;211&gt; 939

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2975

|   |     |
|---|-----|
| Pro Pro Gly Glu Pro Gly Ala Gly Arg Gly Ala Leu Ser Pro Cys Gly |     |
| 1   | 5   |
| Pro Leu Ser Gly Pro Pro Pro Leu Pro Gly Arg Glu Ala Gly Gly Thr |     |
|   | 20  |
| Cys Gly Gln Pro Val Asn Pro Val Phe Asp Leu Ser Arg Arg Asn Pro |     |
|   | 35  |
| Gln Glu Asp Phe Glu Leu Ile Gln Arg Ile Gly Ser Gly Thr Tyr Gly |     |
|   | 50  |
| Asp Val Tyr Lys Ala Arg Asn Val Asn Thr Gly Glu Leu Ala Ala Ile |     |
| 65  | 70  |
| Lys Val Ile Lys Leu Glu Pro Gly Glu Asp Phe Ala Val Val Gln Gln |     |
|   | 85  |
| Glu Ile Ile Met Met Lys Asp Cys Lys His Pro Asp Ile Val Ala Tyr |     |
|   | 100 |
| Phe Gly Ser Tyr Leu Arg Arg Asp Lys Leu Trp Ile Cys Met Glu Phe |     |
|   | 115 |
| Cys Gly Ser Gly Ser Leu Gln Asp Ile Tyr His Val Thr Gly Pro Leu |     |
|   | 130 |
| Ser Glu Leu Gln Ile Ala Tyr Val Ser Arg Glu Thr Leu Gln Gly Leu |     |
| 145   | 150 |
| Tyr Tyr Leu His Ser Lys Gly Lys Met His Arg Asp Ile Lys Gly Ala |     |
|   | 165 |
| Asn Ile Leu Leu Thr Asp Asn Gly His Val Lys Leu Ala Asp Phe Gly |     |
|   | 180 |
| Val Ser Ala Gln Ile Thr Ala Thr Ile Ala Lys Arg Lys Ser Phe Ile |     |
|   | 195 |
| Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ala Ala Val Glu Arg Lys |     |
|   | 210 |
| Gly Gly Tyr Asn Gln Leu Cys Asp Leu Trp Ala Val Gly Ile Thr Ala |     |
| 225   | 230 |
| Ile Glu Leu Ala Glu Leu Gln Pro Pro Met Phe Asp Leu His Pro Met |     |
|   | 245 |
| Arg Ala Leu Phe Leu Met Thr Lys Ser Asn Phe Gln Pro Pro Lys Leu |     |
|   | 260 |
| Lys Asp Lys Met Lys Trp Ser Asn Ser Phe His His Phe Val Lys Met |     |
|   | 265 |
|   | 270 |



|   |                     |     |
|---|---------------------|-----|
| 275   | 280                 | 285 |
| Ala Leu Thr Lys Asn Pro Lys Lys Arg Pro Thr                     | Ala Glu Lys Leu Leu |     |
| 290   | 295                 | 300 |
| Gln His Pro Phe Val Thr Gln His Leu Thr Arg Ser                 | Leu Ala Ile Glu     |     |
| 305   | 310                 | 315 |
| Leu Leu Asp Lys Val Asn Asn Pro Asp His Ser Thr Tyr His Asp Phe |                     | 320 |
|   | 325                 | 330 |
| Asp Asp Asp Asp Pro Glu Pro Leu Val Ala Val Pro His Arg Ile His |                     | 335 |
|   | 340                 | 345 |
| Ser Thr Ser Arg Asn Val Arg Glu Glu Lys Thr Arg Ser Glu Ile Thr |                     | 350 |
|   | 355                 | 360 |
| Phe Gly Gln Val Lys Phe Asp Pro Pro Leu Arg Lys Glu Thr Glu Pro |                     | 365 |
|   | 370                 | 375 |
| His His Glu Leu Pro Asp Ser Asp Gly Phe Leu Asp Ser Ser Glu Glu |                     | 380 |
| 385   | 390                 | 395 |
| Ile Tyr Tyr Thr Ala Arg Ser Asn Leu Asp Leu Gln Leu Glu Tyr Gly |                     | 400 |
|   | 405                 | 410 |
| Gln Gly His Gln Gly Gly Tyr Phe Leu Gly Ala Asn Lys Ser Leu Leu |                     | 415 |
|   | 420                 | 425 |
| Lys Ser Val Glu Glu Glu Leu His Gln Arg Gly His Val Ala His Leu |                     | 430 |
|   | 435                 | 440 |
| Glu Asp Asp Glu Gly Asp Asp Asp Glu Ser Lys His Ser Thr Leu Lys |                     | 445 |
|   | 450                 | 455 |
| Ala Lys Ile Pro Pro Pro Leu Pro Pro Lys Pro Lys Ser Ile Phe Ile |                     | 460 |
| 465   | 470                 | 475 |
| Pro Gln Glu Met His Ser Thr Glu Asp Glu Asn Gln Gly Thr Ile Lys |                     | 480 |
|   | 485                 | 490 |
| Arg Cys Pro Met Ser Gly Ser Pro Ala Lys Pro Ser Gln Val Pro Pro |                     | 495 |
|   | 500                 | 505 |
| Arg Pro Pro Pro Pro Arg Leu Pro Pro His Lys Pro Val Ala Leu Gly |                     | 510 |
|   | 515                 | 520 |
| Asn Gly Met Ser Ser Phe Gln Leu Asn Gly Glu Arg Asp Gly Ser Leu |                     | 525 |
|   | 530                 | 535 |
| Cys Gln Gln Gln Asn Glu His Arg Gly Glu Asn Leu Ser Arg Lys Glu |                     | 540 |
| 545   | 550                 | 555 |
| Lys Lys Asp Val Pro Lys Pro Ile Ser Asn Gly Leu Pro Pro Thr Pro |                     | 560 |
|   | 565                 | 570 |
| Lys Val His Met Gly Ala Cys Phe Ser Lys Val Phe Asn Gly Cys Pro |                     | 575 |
|   | 580                 | 585 |
| Leu Lys Ile His Cys Ala Ser Ser Trp Ile Asn Pro Asp Thr Arg Asp |                     | 590 |
|   | 595                 | 600 |
| Gln Tyr Leu Ile Phe Gly Ala Glu Glu Gly Ile Tyr Thr Leu Asn Leu |                     | 605 |
|   | 610                 | 615 |
| Asn Glu Leu His Glu Thr Ser Met Glu Gln Leu Phe Pro Arg Arg Cys |                     | 620 |
| 625   | 630                 | 635 |
| Thr Trp Leu Tyr Val Met Asn Asn Cys Leu Leu Ser Ile Ser Gly Lys |                     | 640 |
|   | 645                 | 650 |
| Ala Ser Gln Leu Tyr Ser His Asn Leu Pro Gly Leu Phe Asp Tyr Ala |                     | 655 |
|   | 660                 | 665 |
| Arg Gln Met Gln Lys Leu Pro Val Ala Ile Pro Ala His Lys Leu Pro |                     | 670 |
|   | 675                 | 680 |
| Asp Arg Ile Leu Pro Arg Lys Phe Ser Val Ser Ala Lys Ile Pro Glu |                     | 685 |
|   | 690                 | 695 |
| Thr Lys Trp Cys Gln Lys Cys Cys Val Val Arg Asn Pro Tyr Thr Gly |                     | 700 |
| 705   | 710                 | 715 |
| His Lys Tyr Leu Cys Gly Ala Leu Gln Thr Ser Ile Val Leu Leu Glu |                     | 720 |
|   | 725                 | 730 |
| Trp Val Glu Pro Met Gln Lys Phe Met Leu Ile Lys His Ile Asp Phe |                     | 735 |
|   | 740                 | 745 |
| Pro Ile Pro Cys Pro Leu Lys Met Phe Glu Met Leu Val Val Pro Glu |                     | 750 |
|   | 755                 | 760 |
| Gln Glu Tyr Pro Leu Val Cys Val Gly Val Ser Arg Gly Arg Asp Phe |                     | 765 |
|   | 770                 | 775 |
| Asn Gln Val Val Arg Phe Glu Thr Val Asn Pro Asn Ser Thr Ser Ser |                     | 780 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     | 800 |     |
| Trp | Phe | Thr | Glu | Ser | Asp | Thr | Pro | Gln | Thr | Asn | Val | Thr | His | Val | Thr |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |
| Gln | Leu | Glu | Arg | Asp | Thr | Ile | Leu | Val | Cys | Leu | Asp | Cys | Cys | Ile | Lys |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |
| Ile | Val | Asn | Leu | Gln | Gly | Arg | Leu | Lys | Ser | Ser | Arg | Lys | Leu | Ser | Ser |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |
| Glu | Leu | Thr | Phe | Asp | Phe | Arg | Ile | Glu | Ser | Ile | Val | Cys | Leu | Gln | Asp |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| Ser | Val | Leu | Ala | Phe | Trp | Lys | His | Gly | Met | Gln | Gly | Arg | Ser | Phe | Arg |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     | 880 |     |
| Ser | Asn | Glu | Val | Thr | Gln | Glu | Ile | Ser | Asp | Ser | Thr | Arg | Ile | Phe | Arg |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Leu | Leu | Gly | Ser | Asp | Arg | Val | Val | Val | Leu | Glu | Ser | Arg | Pro | Thr | Asp |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |     |     |
| Asn | Pro | Thr | Ala | Asn | Ser | Asn | Leu | Tyr | Ile | Leu | Ala | Gly | His | Glu | Asn |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Ser | Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 930 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 2976

&lt;211&gt; 939

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2976

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Gly | Glu | Pro | Gly | Ala | Gly | Arg | Gly | Ala | Leu | Ser | Pro | Cys | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Leu | Ser | Gly | Pro | Pro | Pro | Leu | Pro | Gly | Arg | Glu | Ala | Gly | Gly | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Gly | Gln | Pro | Val | Asn | Pro | Val | Phe | Asp | Leu | Ser | Arg | Arg | Asn | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Glu | Asp | Phe | Glu | Leu | Ile | Gln | Arg | Ile | Gly | Ser | Gly | Thr | Tyr | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Tyr | Lys | Ala | Arg | Asn | Val | Asn | Thr | Gly | Glu | Leu | Ala | Ala | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys | Val | Ile | Lys | Leu | Glu | Pro | Gly | Glu | Asp | Phe | Ala | Val | Val | Gln | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Ile | Ile | Met | Met | Lys | Asp | Cys | Lys | His | Pro | Asp | Ile | Val | Ala | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Gly | Ser | Tyr | Leu | Arg | Arg | Asp | Lys | Leu | Trp | Ile | Cys | Met | Glu | Phe |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Gly | Ser | Gly | Ser | Leu | Gln | Asp | Ile | Tyr | His | Val | Thr | Gly | Pro | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Glu | Leu | Gln | Ile | Ala | Tyr | Val | Ser | Arg | Glu | Thr | Leu | Gln | Gly | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Tyr | Leu | His | Ser | Lys | Gly | Lys | Met | His | Arg | Asp | Ile | Lys | Gly | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Ile | Leu | Leu | Thr | Asp | Asn | Gly | His | Val | Lys | Leu | Ala | Asp | Phe | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | Ser | Ala | Gln | Ile | Thr | Ala | Thr | Ile | Ala | Lys | Arg | Lys | Ser | Phe | Ile |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Thr | Pro | Tyr | Trp | Met | Ala | Pro | Glu | Val | Ala | Ala | Val | Glu | Arg | Lys |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Gly | Gly | Tyr | Asn | Gln | Leu | Cys | Asp | Leu | Trp | Ala | Val | Gly | Ile | Thr | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Glu | Leu | Ala | Glu | Leu | Gln | Pro | Pro | Met | Phe | Asp | Leu | His | Pro | Met |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Ala | Leu | Phe | Leu | Met | Thr | Lys | Ser | Asn | Phe | Gln | Pro | Pro | Lys | Leu |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Lys | Asp | Lys | Met | Lys | Trp | Ser | Asn | Ser | Phe | His | His | Phe | Val | Lys | Met |

|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Ala Leu Thr Lys Asn Pro Lys Lys Arg Pro Thr Ala Glu Lys Leu Leu |     |     |
| 290   | 295 | 300 |
| Gln His Pro Phe Val Thr Gln His Leu Thr Arg Ser Leu Ala Ile Glu |     |     |
| 305   | 310 | 315 |
| Leu Leu Asp Lys Val Asn Asn Pro Asp His Ser Thr Tyr His Asp Phe |     |     |
|   | 325 | 330 |
| Asp Asp Asp Asp Pro Glu Pro Leu Val Ala Val Pro His Arg Ile His |     |     |
|   | 340 | 345 |
| Ser Thr Ser Arg Asn Val Arg Glu Glu Lys Thr Arg Ser Glu Ile Thr |     |     |
|   | 355 | 360 |
| Phe Gly Gln Val Lys Phe Asp Pro Pro Leu Arg Lys Glu Thr Glu Pro |     |     |
|   | 370 | 375 |
| His His Glu Leu Pro Asp Ser Asp Gly Phe Leu Asp Ser Ser Glu Glu |     |     |
| 385   | 390 | 395 |
| Ile Tyr Tyr Thr Ala Arg Ser Asn Leu Asp Leu Gln Leu Glu Tyr Gly |     |     |
|   | 405 | 410 |
| Gln Gly His Gln Gly Gly Tyr Phe Leu Gly Ala Asn Lys Ser Leu Leu |     |     |
|   | 420 | 425 |
| Lys Ser Val Glu Glu Glu Leu His Gln Arg Gly His Val Ala His Leu |     |     |
|   | 435 | 440 |
| Glu Asp Asp Glu Gly Asp Asp Asp Glu Ser Lys His Ser Thr Leu Lys |     |     |
|   | 450 | 455 |
| Ala Lys Ile Pro Pro Pro Leu Pro Pro Lys Pro Lys Ser Ile Phe Ile |     |     |
| 465   | 470 | 475 |
| Pro Gln Glu Met His Ser Thr Glu Asp Glu Asn Gln Gly Thr Ile Lys |     |     |
|   | 485 | 490 |
| Arg Cys Pro Met Ser Gly Ser Pro Ala Lys Pro Ser Gln Val Pro Pro |     |     |
|   | 500 | 505 |
| Arg Pro Pro Pro Pro Arg Leu Pro Pro His Lys Pro Val Ala Leu Gly |     |     |
|   | 515 | 520 |
| Asn Gly Met Ser Ser Phe Gln Leu Asn Gly Glu Arg Asp Gly Ser Leu |     |     |
|   | 530 | 535 |
| Cys Gln Gln Gln Asn Glu His Arg Gly Glu Asn Leu Ser Arg Lys Glu |     |     |
| 545   | 550 | 555 |
| Lys Lys Asp Val Pro Lys Pro Ile Ser Asn Gly Leu Pro Pro Thr Pro |     |     |
|   | 565 | 570 |
| Lys Val His Met Gly Ala Cys Phe Ser Lys Val Phe Asn Gly Cys Pro |     |     |
|   | 580 | 585 |
| Leu Lys Ile His Cys Ala Ser Ser Trp Ile Asn Pro Asp Thr Arg Asp |     |     |
|   | 595 | 600 |
| Gln Tyr Leu Ile Phe Gly Ala Glu Glu Gly Ile Tyr Thr Leu Asn Leu |     |     |
|   | 610 | 615 |
| Asn Glu Leu His Glu Thr Ser Met Glu Gln Leu Phe Pro Arg Arg Cys |     |     |
| 625   | 630 | 635 |
| Thr Trp Leu Tyr Val Met Asn Asn Cys Leu Ser Ile Ser Gly Lys     |     |     |
|   | 645 | 650 |
| Ala Ser Gln Leu Tyr Ser His Asn Leu Pro Gly Leu Phe Asp Tyr Ala |     |     |
|   | 660 | 665 |
| Arg Gln Met Gln Lys Leu Pro Val Ala Ile Pro Ala His Lys Leu Pro |     |     |
|   | 675 | 680 |
| Asp Arg Ile Leu Pro Arg Lys Phe Ser Val Ser Ala Lys Ile Pro Glu |     |     |
|   | 690 | 695 |
| Thr Lys Trp Cys Gln Lys Cys Cys Val Val Arg Asn Pro Tyr Thr Gly |     |     |
| 705   | 710 | 715 |
| His Lys Tyr Leu Cys Gly Ala Leu Gln Thr Ser Ile Val Leu Leu Glu |     |     |
|   | 725 | 730 |
| Trp Val Glu Pro Met Gln Lys Phe Met Leu Ile Lys His Ile Asp Phe |     |     |
|   | 740 | 745 |
| Pro Ile Pro Cys Pro Leu Lys Met Phe Glu Met Leu Val Val Pro Glu |     |     |
|   | 755 | 760 |
| Gln Glu Tyr Pro Leu Val Cys Val Gly Val Ser Arg Gly Arg Asp Phe |     |     |
|   | 770 | 775 |
| Asn Gln Val Val Arg Phe Glu Thr Val Asn Pro Asn Ser Thr Ser Ser |     |     |

|   |     |     |  |     |  |     |
|---|-----|-----|--|-----|--|-----|
| 785   |     | 790 |  | 795 |  | 800 |
| Trp Phe Thr Glu Ser Asp Thr Pro Gln Thr Asn Val Thr His Val Thr |     |     |  |     |  |     |
|   | 805 |     |  | 810 |  | 815 |
| Gln Leu Glu Arg Asp Thr Ile Leu Val Cys Leu Asp Cys Cys Ile Lys |     |     |  |     |  |     |
|   | 820 |     |  | 825 |  | 830 |
| Ile Val Asn Leu Gln Gly Arg Leu Lys Ser Ser Arg Lys Leu Ser Ser |     |     |  |     |  |     |
|   | 835 |     |  | 840 |  | 845 |
| Glu Leu Thr Phe Asp Phe Arg Ile Glu Ser Ile Val Cys Leu Gln Asp |     |     |  |     |  |     |
|   | 850 |     |  | 855 |  | 860 |
| Ser Val Leu Ala Phe Trp Lys His Gly Met Gln Gly Arg Ser Phe Arg |     |     |  |     |  |     |
| 865   |     | 870 |  | 875 |  | 880 |
| Ser Asn Glu Val Thr Gln Glu Ile Ser Asp Ser Thr Arg Ile Phe Arg |     |     |  |     |  |     |
|   | 885 |     |  | 890 |  | 895 |
| Leu Leu Gly Ser Asp Arg Val Val Val Leu Glu Ser Arg Pro Thr Asp |     |     |  |     |  |     |
|   | 900 |     |  | 905 |  | 910 |
| Asn Pro Thr Ala Asn Ser Asn Leu Tyr Ile Leu Ala Gly His Glu Asn |     |     |  |     |  |     |
|   | 915 |     |  | 920 |  | 925 |
| Ser Tyr   |     |     |  |     |  |     |
| 930   |     |     |  |     |  |     |

&lt;210&gt; 2977

&lt;211&gt; 457

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2977

|   |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|---|-----|---|--|--|--|--|----|--|--|--|--|--|--|-----|--|
| Tyr Ser Leu Arg Lys Gly Ile Thr Phe Lys Leu Ala Gly Ala Met Val |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
| 1   |     | 5 |  |  |  |  | 10 |  |  |  |  |  |  | 15  |  |
| His Ile Lys Lys Gly Glu Leu Thr Gln Glu Glu Lys Glu Leu Leu Glu |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 20  |   |  |  |  |  | 25 |  |  |  |  |  |  | 30  |  |
| Val Ile Gly Lys Gly Thr Val Gln Glu Ala Gly Thr Leu Leu Ser Ser |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 35  |   |  |  |  |  | 40 |  |  |  |  |  |  | 45  |  |
| Lys Asn Val Arg Val Asn Cys Leu Asp Glu Asn Gly Met Thr Pro Leu |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 50  |   |  |  |  |  | 55 |  |  |  |  |  |  | 60  |  |
| Met His Ala Ala Tyr Lys Gly Lys Leu Asp Met Cys Lys Leu Leu Leu |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
| 65  |     |   |  |  |  |  | 70 |  |  |  |  |  |  | 75  |  |
| Arg His Gly Ala Asp Val Asn Cys His Gln His Glu His Gly Tyr Thr |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 85  |   |  |  |  |  |    |  |  |  |  |  |  | 90  |  |
| Ala Leu Met Phe Ala Ala Leu Ser Gly Asn Lys Asp Ile Thr Trp Val |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 100 |   |  |  |  |  |    |  |  |  |  |  |  | 105 |  |
| Met Leu Glu Ala Gly Ala Glu Thr Asp Val Val Asn Ser Val Gly Arg |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 115 |   |  |  |  |  |    |  |  |  |  |  |  | 120 |  |
| Thr Ala Ala Gln Met Ala Ala Phe Val Gly Gln His Asp Cys Val Thr |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 130 |   |  |  |  |  |    |  |  |  |  |  |  | 135 |  |
| Ile Ile Asn Asn Phe Phe Pro Arg Glu Arg Leu Asp Tyr Tyr Thr Lys |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
| 145   |     |   |  |  |  |  |    |  |  |  |  |  |  | 150 |  |
| Pro Gln Gly Leu Asp Lys Glu Pro Lys Leu Pro Pro Lys Leu Ala Gly |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 165 |   |  |  |  |  |    |  |  |  |  |  |  | 170 |  |
| Pro Leu His Lys Ile Ile Thr Thr Thr Asn Leu His Pro Val Lys Ile |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 180 |   |  |  |  |  |    |  |  |  |  |  |  | 185 |  |
| Val Met Leu Val Asn Glu Asn Pro Leu Leu Thr Glu Glu Ala Ala Leu |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 195 |   |  |  |  |  |    |  |  |  |  |  |  | 200 |  |
| Asn Lys Cys Tyr Arg Val Met Asp Leu Ile Cys Glu Lys Cys Met Lys |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 210 |   |  |  |  |  |    |  |  |  |  |  |  | 215 |  |
| Gln Arg Asp Met Asn Glu Val Leu Ala Met Lys Met His Tyr Ile Ser |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
| 225   |     |   |  |  |  |  |    |  |  |  |  |  |  | 230 |  |
| Cys Ile Phe Gln Lys Cys Ile Asn Phe Leu Lys Asp Gly Glu Asn Lys |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 245 |   |  |  |  |  |    |  |  |  |  |  |  | 250 |  |
| Leu Asp Thr Leu Ile Lys Ser Leu Leu Lys Gly Arg Ala Ser Asp Gly |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   | 260 |   |  |  |  |  |    |  |  |  |  |  |  | 265 |  |
| Phe Pro Val Tyr Pro Glu Lys Ile Leu Arg Glu Ser Ile Arg Lys Phe |     |   |  |  |  |  |    |  |  |  |  |  |  |     |  |
|   |     |   |  |  |  |  |    |  |  |  |  |  |  | 270 |  |



|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 275                     | 280                 | 285                 |
| Pro Tyr Cys Glu Ala Thr | Leu Leu Gln Gln Leu | Val Arg Ser Ile Ala |
| 290                     | 295                 | 300                 |
| Pro Val Glu Ile Gly Ser | Asp Pro Thr Ala Phe | Ser Val Leu Thr Gln |
| 305                     | 310                 | 315                 |
| Ala Ile Thr Gly Gln Val | Gly Phe Val Asp Val | Glu Phe Cys Thr Thr |
| 325                     | 330                 | 335                 |
| Cys Gly Glu Lys Gly Ala | Ser Lys Arg Cys Ser | Val Cys Lys Met Val |
| 340                     | 345                 | 350                 |
| Ile Tyr Cys Asp Gln Thr | Cys Gln Lys Thr His | Trp Phe Thr His Lys |
| 355                     | 360                 | 365                 |
| Lys Ile Cys Lys Asn Leu | Lys Asp Ile Tyr Glu | Lys Gln Gln Leu Glu |
| 370                     | 375                 | 380                 |
| Ala Ala Lys Glu Lys Arg | Gln Glu Glu Asn His | Gly Lys Leu Asp Val |
| 385                     | 390                 | 395                 |
| Asn Ser Asn Cys Val Asn | Glu Glu Gln Pro Glu | Ala Glu Val Gly Ile |
| 405                     | 410                 | 415                 |
| Ser Gln Lys Asp Ser Asn | Pro Glu Asp Ser Gly | Glu Gly Lys Lys Glu |
| 420                     | 425                 | 430                 |
| Ser Leu Glu Ser Glu Ala | Glu Leu Glu Gly Leu | Gln Asp Ala Pro Ala |
| 435                     | 440                 | 445                 |
| Gly Pro Gln Val Ser Glu | Glu                 |                     |
| 450                     | 455                 |                     |

&lt;210&gt; 2978

&lt;211&gt; 1726

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2978

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| Ser Asp Asp Leu Arg Thr | Gly Leu Phe Gln Asp Val | Gln Asp Ala Glu     |
| 1                       | 5                       | 10                  |
| Ser Leu Lys Leu Pro Gly | Val Tyr Glu Val Leu     | Phe Tyr Asn Glu Thr |
| 20                      | 25                      | 30                  |
| Glu Asp Cys Pro Gly Met | Met Leu Trp Arg Tyr     | Pro Glu Pro Arg Gly |
| 35                      | 40                      | 45                  |
| Leu Thr Leu Val Arg Ile | Thr Pro Val Pro Phe     | Asn Thr Thr Glu Asp |
| 50                      | 55                      | 60                  |
| Pro Asp Ile Ser Thr Ala | Asp Leu Gly Asp Val     | Leu Gln Asp Pro Cys |
| 65                      | 70                      | 75                  |
| Ser Leu Glu Tyr Trp Asp | Glu Leu Gln Lys Val     | Phe Val Ala Phe Arg |
| 85                      | 90                      | 95                  |
| Glu Phe Asn Leu Ser Glu | Ser Lys Val Cys Glu     | Leu Gln Leu Pro Asp |
| 100                     | 105                     | 110                 |
| Ile Asn Leu Val Asn Asp | Gln Lys Lys Leu Val     | Ser Ser Asp Leu Trp |
| 115                     | 120                     | 125                 |
| Arg Ile Val Leu Asn Ser | Ser Gln Asn Gly Ala     | Asp Asp Gln Ser Ser |
| 130                     | 135                     | 140                 |
| Ala Ser Glu Ser Gly Ser | Gln Ser Thr Cys Asp     | Pro Leu Val Thr Pro |
| 145                     | 150                     | 155                 |
| Thr Ala Leu Ala Ala Cys | Thr Arg Val Asp Ser     | Cys Phe Thr Pro Trp |
| 165                     | 170                     | 175                 |
| Phe Val Pro Ser Leu Cys | Val Ser Phe Gln Phe     | Ala His Leu Glu Phe |
| 180                     | 185                     | 190                 |
| His Leu Cys His His Leu | Asp Gln Leu Gly Thr     | Ala Ala Pro Gln Tyr |
| 195                     | 200                     | 205                 |
| Leu Gln Pro Phe Val Ser | Asp Arg Asn Met Pro     | Ser Glu Leu Glu Tyr |
| 210                     | 215                     | 220                 |
| Met Ile Val Ser Phe Arg | Glu Pro His Met Tyr     | Leu Arg Gln Trp Asn |
| 225                     | 230                     | 235                 |
| Asn Gly Ser Val Cys Gln | Glu Ile Gln Phe Leu     | Ala Gln Ala Asp Cys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Lys | Leu | Leu | Glu | Cys | Arg | Asn | Val | Thr | Met | Gln | Ser | Val | Val | Lys | Pro |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Phe | Ser | Ile | Phe | Gly | Gln | Met | Ala | Val | Ser | Ser | Asp | Val | Val | Glu | Lys |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Leu | Leu | Asp | Cys | Thr | Val | Ile | Val | Asp | Ser | Val | Phe | Val | Asn | Leu | Gly |  |  |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gln | His | Val | Val | His | Ser | Leu | Asn | Thr | Ala | Ile | Gln | Ala | Trp | Gln | Gln |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Asn | Lys | Cys | Pro | Glu | Val | Glu | Glu | Leu | Val | Phe | Ser | His | Phe | Val | Ile |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Cys | Asn | Asp | Thr | Gln | Glu | Thr | Leu | Arg | Phe | Gly | Gln | Val | Asp | Thr | Asp |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Glu | Asn | Ile | Leu | Leu | Ala | Ser | Leu | His | Ser | His | Gln | Tyr | Ser | Trp | Arg |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Ser | His | Lys | Ser | Pro | Gln | Leu | Leu | His | Ile | Cys | Ile | Glu | Gly | Trp | Gly |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Asn | Trp | Arg | Trp | Ser | Glu | Pro | Phe | Ser | Val | Asp | His | Ala | Gly | Thr | Phe |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Ile | Arg | Thr | Ile | Gln | Tyr | Arg | Gly | Arg | Thr | Ala | Ser | Leu | Ile | Ile | Lys |  |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Val | Gln | Gln | Leu | Asn | Gly | Val | Gln | Lys | Gln | Ile | Ile | Ile | Cys | Gly | Arg |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Gln | Ile | Ile | Cys | Ser | Tyr | Leu | Ser | Gln | Ser | Ile | Glu | Leu | Lys | Val | Val |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Gln | His | Tyr | Ile | Gly | Gln | Asp | Gly | Gln | Ala | Val | Val | Arg | Glu | His | Phe |  |  |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Asp | Cys | Leu | Thr | Ala | Lys | Gln | Lys | Leu | Pro | Ser | Tyr | Ile | Leu | Glu | Asn |  |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |  |  |
| Asn | Glu | Leu | Thr | Glu | Leu | Cys | Val | Lys | Ala | Lys | Gly | Asp | Glu | Asp | Trp |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |  |  |
| Ser | Arg | Asp | Val | Cys | Leu | Glu | Ser | Lys | Ala | Pro | Glu | Tyr | Ser | Ile | Val |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Ile | Gln | Val | Pro | Ser | Ser | Asn | Ser | Ser | Ile | Ile | Tyr | Val | Trp | Cys | Thr |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Val | Leu | Thr | Leu | Glu | Pro | Asn | Ser | Gln | Val | Gln | Gln | Arg | Met | Ile | Val |  |  |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Phe | Ser | Pro | Leu | Phe | Ile | Met | Arg | Ser | His | Leu | Pro | Asp | Pro | Ile | Ile |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Ile | His | Leu | Glu | Lys | Arg | Ser | Leu | Gly | Leu | Ser | Glu | Thr | Gln | Ile | Ile |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Pro | Gly | Lys | Gly | Gln | Glu | Lys | Pro | Leu | Gln | Asn | Ile | Glu | Pro | Asp | Leu |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Val | His | His | Leu | Thr | Phe | Gln | Ala | Arg | Glu | Glu | Tyr | Asp | Pro | Ser | Asp |  |  |
|     |     | 595 |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |  |
| Cys | Ala | Val | Pro | Ile | Ser | Thr | Ser | Leu | Ile | Lys | Gln | Ile | Ala | Thr | Lys |  |  |
|     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Val | His | Pro | Gly | Gly | Thr | Val | Asn | Gln | Ile | Leu | Asp | Glu | Phe | Tyr | Gly |  |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     |     | 640 |     |  |  |
| Pro | Glu | Lys | Ser | Leu | Gln | Pro | Ile | Trp | Pro | Tyr | Asn | Lys | Lys | Asp | Ser |  |  |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |  |  |
| Asp | Arg | Asn | Glu | Gln | Leu | Ser | Gln | Trp | Asp | Ser | Pro | Met | Arg | Val | Lys |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Leu | Ser | Ile | Trp | Lys | Pro | Tyr | Val | Arg | Thr | Leu | Leu | Ile | Glu | Leu | Leu |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Pro | Trp | Ala | Leu | Leu | Ile | Asn | Glu | Ser | Lys | Trp | Asp | Leu | Trp | Leu | Phe |  |  |
|     |     | 690 |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Glu | Gly | Glu | Lys | Ile | Val | Leu | Gln | Val | Pro | Ala | Gly | Lys | Ile | Ile | Ile |  |  |
| 705 |     |     |     |     | 710 |     |     |     | 715 |     |     |     |     |     | 720 |  |  |
| Pro | Pro | Asn | Phe | Gln | Glu | Ala | Phe | Gln | Ile | Gly | Ile | Tyr | Trp | Ala | Asn |  |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |  |  |
| Thr | Asn | Thr | Val | His | Lys | Ser | Val | Ala | Ile | Lys | Leu | Val | His | Asn | Leu |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Thr | Ser | Pro | Lys | Trp | Lys | Asp | Gly | Gly | Asn | Gly | Glu | Val | Val | Thr | Leu |  |  |

|                         |                         |                 |
|-------------------------|-------------------------|-----------------|
| 755                     | 760                     | 765             |
| Asp Glu Glu Ala Phe Val | Asp Thr Glu Ile Arg Leu | Gly Ala Phe Pro |
| 770                     | 775                     | 780             |
| Gly His Gln Lys Leu Cys | Gln Phe Cys Ile Ser Ser | Met Val Gln Gln |
| 785                     | 790                     | 795             |
| Gly Ile Gln Ile Ile Gln | Ile Glu Asp Lys Thr Thr | Ile Ile Asn Asn |
| 805                     | 810                     | 815             |
| Thr Pro Tyr Gln Ile Phe | Tyr Lys Pro Gln Leu Ser | Val Cys Asn Pro |
| 820                     | 825                     | 830             |
| His Ser Gly Lys Glu Tyr | Phe Arg Val Pro Asp Ser | Ala Thr Phe Ser |
| 835                     | 840                     | 845             |
| Ile Cys Pro Gly Gly Glu | Gln Pro Ala Met Lys Ser | Ser Ser Leu Pro |
| 850                     | 855                     | 860             |
| Cys Trp Asp Leu Met Pro | Asp Ile Ser Gln Ser Val | Leu Asp Ala Ser |
| 865                     | 870                     | 875             |
| Leu Leu Gln Lys Gln Ile | Met Leu Gly Phe Ser Pro | Ala Pro Gly Ala |
| 885                     | 890                     | 895             |
| Asp Ser Ser Gln Cys Trp | Ser Leu Pro Ala Ile Val | Arg Pro Glu Phe |
| 900                     | 905                     | 910             |
| Pro Arg Gln Ser Val Ala | Val Pro Leu Gly Asn Phe | Arg Glu Asn Gly |
| 915                     | 920                     | 925             |
| Phe Cys Thr Arg Ala Ile | Val Leu Thr Tyr Gln Glu | His Leu Gly Val |
| 930                     | 935                     | 940             |
| Thr Tyr Leu Thr Leu Ser | Glu Asp Pro Ser Pro Arg | Val Ile Ile His |
| 945                     | 950                     | 955             |
| Asn Arg Cys Pro Val Lys | Met Leu Ile Lys Glu Asn | Ile Lys Asp Ile |
| 965                     | 970                     | 975             |
| Pro Lys Phe Glu Val Tyr | Cys Lys Lys Ile Pro Ser | Glu Cys Ser Ile |
| 980                     | 985                     | 990             |
| His His Glu Leu Tyr His | Gln Ile Ser Ser Tyr Pro | Asp Cys Lys Thr |
| 995                     | 1000                    | 1005            |
| Lys Asp Leu Leu Pro Ser | Leu Leu Leu Arg Val Glu | Pro Leu Asp Glu |
| 1010                    | 1015                    | 1020            |
| Val Thr Thr Glu Trp Ser | Asp Ala Ile Asp Ile Asn | Ser Gln Gly Thr |
| 1025                    | 1030                    | 1035            |
| Gln Val Val Phe Leu Thr | Gly Phe Gly Tyr Val Tyr | Val Asp Val Val |
| 1045                    | 1050                    | 1055            |
| His Gln Cys Gly Thr Val | Phe Ile Thr Val Ala Pro | Glu Gly Lys Ala |
| 1060                    | 1065                    | 1070            |
| Gly Pro Ile Leu Thr Asn | Thr Asn Arg Ala Pro Glu | Lys Ile Val Thr |
| 1075                    | 1080                    | 1085            |
| Phe Lys Met Phe Ile Thr | Gln Leu Ser Leu Ala Val | Phe Asp Asp Leu |
| 1090                    | 1095                    | 1100            |
| Thr His His Lys Ala Ser | Ala Glu Leu Leu Arg Leu | Thr Leu Asp Asn |
| 1105                    | 1110                    | 1115            |
| Ile Phe Leu Cys Val Ala | Pro Gly Ala Gly Pro Leu | Pro Gly Glu Glu |
| 1125                    | 1130                    | 1135            |
| Pro Val Ala Ala Leu Phe | Glu Leu Tyr Cys Val Glu | Ile Cys Cys Gly |
| 1140                    | 1145                    | 1150            |
| Asp Leu Gln Leu Asp Asn | Gln Leu Tyr Asn Lys Ser | Asn Phe His Phe |
| 1155                    | 1160                    | 1165            |
| Ala Val Leu Val Cys Gln | Gly Glu Lys Ala Glu Pro | Ile Gln Cys Ser |
| 1170                    | 1175                    | 1180            |
| Lys Met Gln Ser Leu Leu | Ile Ser Asn Lys Glu Leu | Glu Glu Tyr Lys |
| 1185                    | 1190                    | 1195            |
| Glu Lys Cys Phe Ile Lys | Leu Cys Ile Thr Leu Asn | Glu Gly Lys Ser |
| 1205                    | 1210                    | 1215            |
| Ile Leu Cys Asp Ile Asn | Glu Phe Ser Phe Glu Leu | Lys Pro Ala Arg |
| 1220                    | 1225                    | 1230            |
| Leu Tyr Val Glu Asp Thr | Phe Val Tyr Tyr Ile Lys | Thr Leu Phe Asp |
| 1235                    | 1240                    | 1245            |
| Thr Tyr Leu Pro Asn Ser | Arg Leu Ala Gly His Ser | Thr His Leu Ser |
| 1250                    | 1255                    | 1260            |
| Gly Gly Lys Gln Val Leu | Pro Met Gln Val Thr Gln | His Ala Arg Ala |

1265                      1270                      1275                      1280  
Leu Val Asn Pro Val Lys Leu Arg Lys Leu Val Ile Gln Pro Val Asn  
                         1285                      1290                      1295  
Leu Leu Val Ser Ile His Ala Ser Leu Lys Leu Tyr Ile Ala Ser Asp  
                         1300                      1305                      1310  
His Thr Pro Leu Ser Phe Ser Val Phe Glu Arg Gly Pro Ile Phe Thr  
                         1315                      1320                      1325  
Thr Ala Arg Gln Leu Val His Ala Leu Ala Met His Tyr Ala Ala Gly  
                         1330                      1335                      1340  
Ala Leu Phe Arg Ala Gly Trp Val Val Gly Ser Leu Asp Ile Leu Gly  
1345                      1350                      1355                      1360  
Ser Pro Ala Ser Leu Val Arg Ser Ile Gly Asn Gly Val Ala Asp Phe  
                         1365                      1370                      1375  
Phe Arg Leu Pro Tyr Glu Gly Leu Thr Arg Gly Pro Gly Ala Phe Val  
                         1380                      1385                      1390  
Ser Gly Val Ser Arg Gly Thr Thr Ser Phe Val Lys His Ile Ser Lys  
                         1395                      1400                      1405  
Gly Thr Leu Thr Ser Ile Thr Asn Leu Ala Thr Ser Leu Ala Arg Asn  
                         1410                      1415                      1420  
Met Asp Arg Leu Ser Leu Asp Glu Glu His Tyr Asn Arg Gln Glu Glu  
1425                      1430                      1435                      1440  
Trp Arg Arg Gln Leu Pro Glu Ser Leu Gly Glu Gly Leu Arg Gln Gly  
                         1445                      1450                      1455  
Leu Ser Arg Leu Gly Ile Ser Leu Leu Gly Ala Ile Ala Gly Ile Val  
                         1460                      1465                      1470  
Asp Gln Pro Met Gln Asn Phe Gln Lys Thr Ser Glu Ala Gln Ala Ser  
                         1475                      1480                      1485  
Ala Gly His Lys Ala Lys Gly Val Ile Ser Gly Val Gly Lys Gly Ile  
                         1490                      1495                      1500  
Met Gly Val Phe Thr Lys Pro Ile Gly Gly Ala Ala Glu Leu Val Ser  
1505                      1510                      1515                      1520  
Gln Thr Gly Tyr Gly Ile Leu His Gly Ala Gly Leu Ser Gln Leu Pro  
                         1525                      1530                      1535  
Lys Gln Arg His Gln Pro Ser Asp Val His Ala Asp Gln Ala Pro Asn  
                         1540                      1545                      1550  
Ser His Val Lys Tyr Val Trp Lys Met Leu Gln Ser Leu Gly Arg Pro  
                         1555                      1560                      1565  
Glu Val His Met Ala Leu Asp Val Val Leu Val Arg Gly Ser Gly Gln  
                         1570                      1575                      1580  
Glu His Glu Gly Cys Leu Leu Thr Ser Glu Val Leu Phe Val Val  
1585                      1590                      1595                      1600  
Ser Val Ser Glu Asp Thr Gln Gln Gln Ala Phe Pro Val Thr Glu Ile  
                         1605                      1610                      1615  
Asp Cys Ala Gln Asp Ser Lys Gln Asn Asn Leu Leu Thr Val Gln Leu  
                         1620                      1625                      1630  
Lys Gln Pro Arg Val Ala Cys Asp Val Glu Val Asp Gly Val Arg Glu  
                         1635                      1640                      1645  
Arg Leu Ser Glu Gln Gln Tyr Asn Arg Leu Val Asp Tyr Ile Thr Lys  
                         1650                      1655                      1660  
Thr Ser Cys His Leu Ala Pro Ser Cys Ser Ser Met Gln Ile Pro Cys  
1665                      1670                      1675                      1680  
Pro Val Val Ala Ala Glu Pro Pro Pro Ser Thr Val Lys Thr Tyr His  
                         1685                      1690                      1695  
Tyr Leu Val Asp Pro His Phe Ala Gln Val Phe Leu Ser Lys Phe Thr  
                         1700                      1705                      1710  
Met Val Lys Asn Lys Ala Leu Arg Lys Gly Phe Pro  
                         1715                      1720                      1724

&lt;210&gt; 2979

&lt;211&gt; 811

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



<400> 2979

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Trp | Leu | Phe | Pro | Ala | Ser | Val | Leu | Cys | Pro | Arg | Cys | Leu | Thr | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ala | Val | Gly | Ser | Ala | Glu | Trp | Lys | Ser | Leu | Val | Val | Leu | Phe | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Ser | Ser | Arg | Pro | Thr | Leu | Gly | His | Leu | Asp | Ser | Lys | Pro | Ser | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Ser | Asn | Met | Ile | Arg | Gly | Arg | Asn | Ser | Ala | Thr | Ser | Ala | Asp | Glu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Pro | His | Ile | Gly | Asn | Tyr | Arg | Leu | Leu | Lys | Thr | Ile | Gly | Lys | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Phe | Ala | Lys | Val | Lys | Leu | Ala | Arg | His | Ile | Leu | Thr | Gly | Lys | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Ala | Val | Lys | Ile | Ile | Asp | Lys | Thr | Gln | Leu | Asn | Ser | Ser | Ser | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Lys | Leu | Phe | Arg | Glu | Val | Arg | Ile | Met | Lys | Val | Leu | Asn | His | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asn | Ile | Val | Lys | Leu | Phe | Glu | Val | Ile | Glu | Thr | Glu | Lys | Thr | Leu | Tyr |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Val | Met | Glu | Tyr | Ala | Ser | Gly | Gly | Glu | Val | Phe | Asp | Tyr | Leu | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | His | Gly | Arg | Met | Lys | Glu | Lys | Glu | Ala | Arg | Ala | Lys | Phe | Arg | Gln |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Val | Ser | Ala | Val | Gln | Tyr | Cys | His | Gln | Lys | Phe | Ile | Val | His | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Leu | Lys | Ala | Glu | Asn | Leu | Leu | Leu | Asp | Ala | Asp | Met | Asn | Ile | Lys |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Ile | Ala | Asp | Phe | Gly | Phe | Ser | Asn | Glu | Phe | Thr | Phe | Gly | Asn | Lys | Leu |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Thr | Phe | Cys | Gly | Ser | Pro | Pro | Tyr | Ala | Ala | Pro | Glu | Leu | Phe | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Lys | Lys | Tyr | Asp | Gly | Pro | Glu | Val | Asp | Val | Trp | Ser | Leu | Gly | Val |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ile | Leu | Tyr | Thr | Leu | Val | Ser | Gly | Ser | Leu | Pro | Phe | Asp | Gly | Gln | Asn |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Leu | Lys | Glu | Leu | Arg | Glu | Arg | Val | Leu | Arg | Gly | Lys | Tyr | Arg | Ile | Pro |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Phe | Tyr | Met | Ser | Thr | Asp | Cys | Glu | Asn | Leu | Leu | Lys | Lys | Phe | Leu | Ile |
| 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Leu | Asn | Pro | Ser | Lys | Arg | Gly | Thr | Leu | Glu | Gln | Ile | Met | Lys | Asp | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Trp | Met | Asn | Val | Gly | His | Glu | Asp | Asp | Glu | Leu | Lys | Pro | Tyr | Gly | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Leu | Pro | Asp | Tyr | Lys | Asp | Pro | Arg | Arg | Thr | Glu | Leu | Met | Val | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Met | Gly | Tyr | Thr | Arg | Glu | Glu | Ile | Gln | Asp | Ser | Leu | Val | Gly | Gln | Arg |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Tyr | Asn | Glu | Val | Met | Ala | Thr | Tyr | Leu | Leu | Leu | Gly | Tyr | Lys | Ser | Ser |
| 370 |     |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Glu | Leu | Glu | Gly | Asp | Thr | Ile | Thr | Leu | Lys | Pro | Arg | Pro | Ser | Ala | Asp |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Thr | Asn | Ser | Ser | Ala | Pro | Ser | Pro | Ser | His | Lys | Val | Gln | Arg | Ser |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Val | Ser | Ala | Asn | Pro | Lys | Gln | Arg | Arg | Phe | Ser | Asp | Gln | Ala | Gly | Pro |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ala | Ile | Pro | Thr | Ser | Asn | Ser | Tyr | Ser | Lys | Lys | Thr | Gln | Ser | Asn | Asn |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ala | Glu | Asn | Lys | Arg | Pro | Glu | Glu | Asp | Arg | Glu | Ser | Gly | Arg | Lys | Ala |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ser | Ser | Thr | Ala | Lys | Val | Pro | Ala | Ser | Pro | Leu | Pro | Gly | Leu | Glu | Arg |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Lys | Lys | Thr | Thr | Pro | Thr | Pro | Ser | Thr | Asn | Ser | Val | Leu | Ser | Thr | Ser |

```
<210> 2980
<211> 1107
<212> PRT
<213> Homo sapiens
```

4648

4649

|   |      |      |
|---|------|------|
| 610   | 615  | 620  |
| Ser Leu Gln Ser His Ile Pro Val Leu Asp Lys Gly Arg Ala Gly Arg |      |      |
| 625   | 630  | 635  |
| Lys Arg Phe Pro Ala Ser Ser Leu Tyr Pro Ser Gly Ser Gln Thr Gln |      | 640  |
|   | 645  | 650  |
| Ile Glu Thr Lys Asn Pro Arg Val Asn Leu Leu Val Ser Lys Trp Gln |      | 655  |
|   | 660  | 665  |
| Gln Val Trp Leu Leu Ala Leu Glu Arg Arg Arg Lys Leu Asn Asp Ala |      | 670  |
|   | 675  | 680  |
| Leu Asp Arg Leu Glu Glu Leu Arg Glu Phe Ala Asn Phe Asp Phe Asp |      | 685  |
|   | 690  | 695  |
| Ile Trp Arg Lys Lys Tyr Met Arg Trp Met Asn His Lys Lys Ser Arg |      | 700  |
| 705   | 710  | 715  |
| Val Met Asp Phe Phe Arg Arg Ile Asp Lys Asp Gln Asp Gly Lys Ile |      | 720  |
|   | 725  | 730  |
| Thr Arg Gln Glu Phe Ile Asp Gly Ile Leu Ser Ser Lys Phe Pro Thr |      | 735  |
|   | 740  | 745  |
| Ser Arg Leu Glu Met Ser Ala Val Ala Asp Ile Phe Asp Arg Asp Gly |      | 750  |
|   | 755  | 760  |
| Asp Gly Tyr Ile Asp Tyr Tyr Glu Phe Val Ala Ala Leu His Pro Asn |      | 765  |
|   | 770  | 775  |
| Lys Asp Ala Tyr Lys Pro Ile Thr Asp Ala Asp Lys Ile Glu Asp Glu |      | 780  |
| 785   | 790  | 795  |
| Val Thr Arg Gln Val Ala Lys Cys Lys Cys Ala Lys Arg Phe Gln Val |      | 800  |
|   | 805  | 810  |
| Glu Gln Ile Gly Asp Asn Lys Tyr Arg Phe Phe Leu Gly Asn Gln Phe |      | 815  |
|   | 820  | 825  |
| Gly Asp Ser Gln Gln Leu Arg Leu Val Arg Ile Leu Arg Ser Thr Val |      | 830  |
|   | 835  | 840  |
| Met Val Arg Val Gly Gly Gly Trp Met Ala Leu Asp Glu Phe Leu Val |      | 845  |
|   | 850  | 855  |
| Lys Asn Asp Pro Cys Arg Ala Lys Gly Arg Thr Asn Met Glu Leu Arg |      | 860  |
| 865   | 870  | 875  |
| Glu Lys Phe Ile Leu Ala Asp Gly Ala Ser Gln Gly Met Ala Ala Phe |      | 880  |
|   | 885  | 890  |
| Arg Pro Arg Gly Arg Arg Ser Arg Pro Ser Ser Arg Gly Ala Ser Pro |      | 895  |
|   | 900  | 905  |
| Asn Arg Ser Thr Ser Val Ser Ser Gln Ala Ala Gln Ala Ala Ser Pro |      | 910  |
|   | 915  | 920  |
| Gln Val Pro Ala Thr Thr Thr Pro Lys Ile Leu His Pro Leu Thr Arg |      | 925  |
|   | 930  | 935  |
| Asn Tyr Gly Lys Pro Trp Leu Thr Asn Ser Lys Met Ser Thr Pro Cys |      | 940  |
| 945   | 950  | 955  |
| Lys Ala Ala Glu Cys Ser Asp Phe Pro Val Pro Ser Ala Glu Gly Thr |      | 960  |
|   | 965  | 970  |
| Pro Ile Gln Gly Ser Lys Leu Arg Leu Pro Gly Tyr Leu Ser Gly Lys |      | 975  |
|   | 980  | 985  |
| Gly Phe His Ser Gly Glu Asp Ser Gly Leu Ile Thr Thr Ala Ala Ala |      | 990  |
|   | 995  | 1000 |
| Arg Val Arg Thr Gln Phe Ala Asp Ser Lys Lys Thr Pro Ser Arg Pro |      | 1005 |
|   | 1010 | 1015 |
| Gly Ser Arg Ala Gly Ser Lys Ala Gly Ser Arg Ala Ser Ser Arg Arg |      | 1020 |
| 1025  | 1030 | 1035 |
| Gly Ser Asp Ala Ser Asp Phe Asp Ile Ser Glu Ile Gln Ser Val Cys |      | 1040 |
|   | 1045 | 1050 |
| Ser Asp Val Glu Thr Val Pro Gln Thr His Arg Pro Thr Pro Arg Ala |      | 1055 |
|   | 1060 | 1065 |
| Gly Ser Arg Pro Ser Thr Ala Lys Pro Ser Lys Ile Pro Thr Pro Gln |      | 1070 |
|   | 1075 | 1080 |
| Arg Lys Ser Pro Ala Ser Lys Leu Asp Lys Ser Ser Lys Arg         |      | 1085 |
|   | 1090 | 1095 |
|   |      | 1100 |
|   |      | 1102 |



<210> 2981  
 <211> 1107  
 <212> PRT  
 <213> Homo sapiens

<400> 2981  
 Asn Cys Leu Leu Leu Gln Ala Lys Gly Phe His Gly Glu Ile Glu Asp  
 1 5 10 15  
 Leu Gln Gln Trp Leu Thr Asp Thr Glu Arg His Leu Leu Ala Ser Lys  
 20 25 30  
 Pro Leu Gly Gly Leu Pro Glu Thr Ala Lys Glu Gln Leu Asn Val His  
 35 40 45  
 Met Glu Val Cys Ala Ala Phe Glu Ala Lys Glu Glu Thr Tyr Lys Ser  
 50 55 60  
 Leu Met Gln Lys Gly Gln Gln Met Leu Ala Arg Cys Pro Lys Ser Ala  
 65 70 75 80  
 Glu Thr Asn Ile Asp Gln Asp Ile Asn Asn Leu Lys Glu Lys Trp Glu  
 85 90 95  
 Ser Val Glu Thr Lys Leu Asn Glu Arg Lys Thr Lys Leu Glu Glu Ala  
 100 105 110  
 Leu Asn Leu Ala Met Glu Phe His Asn Ser Leu Gln Asp Phe Ile Asn  
 115 120 125  
 Trp Leu Thr Gln Ala Glu Gln Thr Leu Asn Val Ala Ser Arg Pro Ser  
 130 135 140  
 Leu Ile Leu Asp Thr Val Leu Phe Gln Ile Asp Glu His Lys Val Phe  
 145 150 155 160  
 Ala Asn Glu Val Asn Ser His Arg Glu Gln Ile Ile Glu Leu Asp Lys  
 165 170 175  
 Thr Gly Thr His Leu Lys Tyr Phe Ser Gln Lys Gln Asp Val Val Leu  
 180 185 190  
 Ile Lys Asn Leu Leu Ile Ser Val Gln Ser Arg Trp Glu Lys Val Val  
 195 200 205  
 Gln Arg Leu Val Glu Arg Gly Arg Ser Leu Asp Asp Ala Arg Lys Arg  
 210 215 220  
 Ala Lys Gln Phe His Glu Ala Trp Ser Lys Leu Met Glu Trp Leu Glu  
 225 230 235 240  
 Glu Ser Glu Lys Ser Leu Asp Ser Glu Leu Glu Ile Ala Asn Asp Pro  
 245 250 255  
 Asp Lys Ile Lys Thr Gln Leu Ala Gln His Lys Glu Phe Gln Lys Ser  
 260 265 270  
 Leu Gly Ala Lys His Ser Val Tyr Asp Thr Thr Asn Arg Thr Gly Arg  
 275 280 285  
 Ser Leu Lys Glu Lys Thr Ser Leu Ala Asp Asp Asn Leu Lys Leu Asp  
 290 295 300  
 Asp Met Leu Ser Glu Leu Arg Asp Lys Trp Asp Thr Ile Cys Gly Lys  
 305 310 315 320  
 Ser Val Glu Arg Gln Asn Lys Leu Glu Glu Ala Leu Leu Phe Ser Gly  
 325 330 335  
 Gln Phe Thr Asp Ala Leu Gln Ala Leu Ile Asp Trp Leu Tyr Arg Val  
 340 345 350  
 Glu Pro Gln Leu Ala Glu Asp Gln Pro Val His Gly Asp Ile Asp Leu  
 355 360 365  
 Val Met Asn Leu Ile Asp Asn His Lys Ala Phe Gln Lys Glu Leu Gly  
 370 375 380  
 Lys Arg Thr Ser Ser Val Gln Ala Leu Lys Arg Ser Ala Arg Glu Leu  
 385 390 395 400  
 Ile Glu Gly Ser Arg Asp Asp Ser Ser Trp Val Lys Val Gln Met Gln  
 405 410 415  
 Glu Leu Ser Thr Arg Trp Glu Thr Val Cys Ala Leu Ser Ile Ser Lys  
 420 425 430  
 Gln Thr Arg Leu Glu Ala Ala Leu Arg Gln Ala Glu Glu Phe His Ser  
 435 440 445  
 Val Val His Ala Leu Leu Glu Trp Leu Ala Glu Ala Glu Gln Thr Leu

|                         |                             |                     |
|-------------------------|-----------------------------|---------------------|
| 450                     | 455                         | 460                 |
| Arg Phe His Gly Val     | Leu Pro Asp Asp Glu Asp     | Ala Leu Arg Thr Leu |
| 465                     | 470                         | 475                 |
| Ile Asp Gln His Lys     | Glu Phe Met Lys Lys Leu     | Glu Glu Lys Arg Ala |
| 485                     | 490                         | 495                 |
| Glu Leu Asn Lys Ala Thr | Thr Met Gly Asp Thr Val     | Leu Ala Ile Cys     |
| 500                     | 505                         | 510                 |
| His Pro Asp Ser Ile Thr | Thr Ile Lys His Trp Ile Thr | Ile Ile Arg         |
| 515                     | 520                         | 525                 |
| Ala Arg Phe Glu Glu Val | Leu Ala Trp Ala Lys Gln     | His Gln Gln Arg     |
| 530                     | 535                         | 540                 |
| Leu Ala Ser Ala Leu Ala | Gly Leu Ile Ala Lys Gln     | Glu Leu Leu Glu     |
| 545                     | 550                         | 555                 |
| Ala Leu Leu Ala Trp Leu | Gln Trp Ala Glu Thr Thr     | Leu Thr Asp Lys     |
| 565                     | 570                         | 575                 |
| Asp Lys Glu Val Ile Pro | Gln Glu Ile Glu Glu Val     | Lys Ala Leu Ile     |
| 580                     | 585                         | 590                 |
| Ala Glu His Gln Thr Phe | Met Glu Glu Met Thr Arg     | Lys Gln Pro Asp     |
| 595                     | 600                         | 605                 |
| Val Asp Lys Val Thr Lys | Thr Tyr Lys Arg Arg Ala     | Ala Asp Pro Ser     |
| 610                     | 615                         | 620                 |
| Ser Leu Gln Ser His Ile | Pro Val Leu Asp Lys Gly     | Arg Ala Gly Arg     |
| 625                     | 630                         | 635                 |
| Lys Arg Phe Pro Ala Ser | Ser Leu Tyr Pro Ser Gly     | Ser Gln Thr Gln     |
| 645                     | 650                         | 655                 |
| Ile Glu Thr Lys Asn Pro | Arg Val Asn Leu Leu Val     | Ser Lys Trp Gln     |
| 660                     | 665                         | 670                 |
| Gln Val Trp Leu Leu Ala | Leu Glu Arg Arg Arg Lys     | Leu Asn Asp Ala     |
| 675                     | 680                         | 685                 |
| Leu Asp Arg Leu Glu Glu | Leu Arg Glu Phe Ala Asn     | Phe Asp Phe Asp     |
| 690                     | 695                         | 700                 |
| Ile Trp Arg Lys Lys Tyr | Met Arg Trp Met Asn His     | Lys Lys Ser Arg     |
| 705                     | 710                         | 715                 |
| Val Met Asp Phe Phe Arg | Arg Ile Asp Lys Asp Gln     | Asp Gly Lys Ile     |
| 725                     | 730                         | 735                 |
| Thr Arg Gln Glu Phe Ile | Asp Gly Ile Leu Ser Ser     | Lys Phe Pro Thr     |
| 740                     | 745                         | 750                 |
| Ser Arg Leu Glu Met Ser | Ala Val Ala Asp Ile Phe     | Asp Arg Asp Gly     |
| 755                     | 760                         | 765                 |
| Asp Gly Tyr Ile Asp Tyr | Tyr Glu Phe Val Ala Ala     | Leu His Pro Asn     |
| 770                     | 775                         | 780                 |
| Lys Asp Ala Tyr Lys Pro | Ile Thr Asp Ala Asp Lys     | Ile Glu Asp Glu     |
| 785                     | 790                         | 795                 |
| Val Thr Arg Gln Val Ala | Lys Cys Lys Cys Ala Lys     | Arg Phe Gln Val     |
| 805                     | 810                         | 815                 |
| Glu Gln Ile Gly Asp Asn | Lys Tyr Arg Phe Phe Leu     | Gly Asn Gln Phe     |
| 820                     | 825                         | 830                 |
| Gly Asp Ser Gln Gln Leu | Arg Leu Val Arg Ile Leu     | Arg Ser Thr Val     |
| 835                     | 840                         | 845                 |
| Met Val Arg Val Gly Gly | Gly Trp Met Ala Leu Asp     | Glu Phe Leu Val     |
| 850                     | 855                         | 860                 |
| Lys Asn Asp Pro Cys Arg | Ala Lys Gly Arg Thr Asn     | Met Glu Leu Arg     |
| 865                     | 870                         | 875                 |
| Glu Lys Phe Ile Leu Ala | Asp Gly Ala Ser Gln Gly     | Met Ala Ala Phe     |
| 885                     | 890                         | 895                 |
| Arg Pro Arg Gly Arg Arg | Ser Arg Pro Ser Ser Arg     | Gly Ala Ser Pro     |
| 900                     | 905                         | 910                 |
| Asn Arg Ser Thr Ser Val | Ser Ser Gln Ala Ala Gln     | Ala Ala Ser Pro     |
| 915                     | 920                         | 925                 |
| Gln Val Pro Ala Thr Thr | Thr Pro Lys Ile Leu His     | Pro Leu Thr Arg     |
| 930                     | 935                         | 940                 |
| Asn Tyr Gly Lys Pro Trp | Leu Thr Asn Ser Lys Met     | Ser Thr Pro Cys     |
| 945                     | 950                         | 955                 |
| Lys Ala Ala Glu Cys Ser | Asp Phe Pro Val Pro Ser     | Ala Glu Gly Thr     |

965 970 975  
 Pro Ile Gln Gly Ser Lys Leu Arg Leu Pro Gly Tyr Leu Ser Gly Lys  
 980 985 990  
 Gly Phe His Ser Gly Glu Asp Ser Gly Leu Ile Thr Thr Ala Ala Ala  
 995 1000 1005  
 Arg Val Arg Thr Gln Phe Ala Asp Ser Lys Lys Thr Pro Ser Arg Pro  
 1010 1015 1020  
 Gly Ser Arg Ala Gly Ser Lys Ala Gly Ser Arg Ala Ser Ser Arg Arg  
 1025 1030 1035 1040  
 Gly Ser Asp Ala Ser Asp Phe Asp Ile Ser Glu Ile Gln Ser Val Cys  
 1045 1050 1055  
 Ser Asp Val Glu Thr Val Pro Gln Thr His Arg Pro Thr Pro Arg Ala  
 1060 1065 1070  
 Gly Ser Arg Pro Ser Thr Ala Lys Pro Ser Lys Ile Pro Thr Pro Gln  
 1075 1080 1085  
 Arg Lys Ser Pro Ala Ser Lys Leu Asp Lys Ser Ser Lys Arg  
 1090 1095 1100 1102

&lt;210&gt; 2982

&lt;211&gt; 688

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2982

Met Ala Ala Gly Gly Ala Glu Gly Gly Ser Gly Pro Gly Ala Ala Met  
 1 5 10 15  
 Gly Asp Cys Ala Glu Ile Lys Ser Gln Phe Arg Thr Arg Glu Gly Phe  
 20 25 30  
 Tyr Lys Leu Leu Pro Gly Asp Gly Ala Ala Arg Arg Ser Gly Pro Ala  
 35 40 45  
 Ser Ala Gln Thr Pro Val Pro Pro Gln Pro Pro Pro Pro Gly  
 50 55 60  
 Pro Ala Ser Ala Ser Gly Pro Gly Ala Ala Gly Pro Ala Ser Ser Pro  
 65 70 75 80  
 Pro Pro Ala Gly Pro Gly Pro Gly Pro Ala Leu Pro Ala Val Arg Leu  
 85 90 95  
 Ser Leu Val Arg Leu Gly Glu Pro Asp Ser Ala Gly Ala Gly Glu Pro  
 100 105 110  
 Pro Ala Thr Pro Ala Gly Leu Gly Ser Gly Gly Asp Arg Val Cys Phe  
 115 120 125  
 Asn Leu Gly Arg Glu Leu Tyr Phe Tyr Pro Gly Cys Cys Arg Arg Gly  
 130 135 140  
 Ser Gln Arg Trp His Thr Pro Leu Thr Pro Phe Leu Pro Pro Leu Lys  
 145 150 155 160  
 Ser Ile Asp Leu Asn Lys Pro Ile Asp Lys Arg Ile Tyr Lys Gly Thr  
 165 170 175  
 Gln Pro Thr Cys His Asp Phe Asn Gln Phe Thr Ala Ala Thr Glu Thr  
 180 185 190  
 Ile Ser Leu Leu Val Gly Phe Ser Ala Gly Gln Val Gln Tyr Leu Asp  
 195 200 205  
 Leu Ile Lys Lys Asp Thr Ser Lys Leu Phe Asn Glu Glu Arg Leu Ile  
 210 215 220  
 Asp Lys Thr Lys Val Thr Tyr Leu Lys Trp Leu Pro Glu Ser Glu Ser  
 225 230 235 240  
 Leu Phe Leu Ala Ser His Ala Ser Gly His Leu Tyr Leu Tyr Asn Val  
 245 250 255  
 Ser His Pro Cys Ala Ser Ala Pro Pro Gln Tyr Ser Leu Leu Lys Gln  
 260 265 270  
 Ala Trp Gly Phe Ser Phe Tyr Ala Ala Lys Ser Lys Ala Pro Arg Asn  
 275 280 285  
 Pro Leu Ala Lys Trp Ala Val Gly Glu Gly Pro Leu Asn Glu Phe Ala

|   |     |     |
|---|-----|-----|
| 290   | 295 | 300 |
| Phe Ser Pro Asp Gly Arg His Leu Ala Cys Val Ser Gln Asp Gly Cys |     |     |
| 305   | 310 | 315 |
| Leu Arg Val Phe His Phe Asp Ser Met Leu Leu Arg Gly Leu Met Lys |     | 320 |
|   | 325 | 330 |
| Ser Tyr Phe Gly Gly Leu Leu Cys Val Cys Trp Ser Pro Asp Gly Arg |     | 335 |
|   | 340 | 345 |
| Tyr Val Val Thr Gly Gly Glu Asp Asp Leu Val Thr Val Trp Ser Phe |     | 350 |
|   | 355 | 360 |
| Thr Glu Gly Arg Val Val Ala Arg Gly His Gly His Lys Ser Trp Val |     | 365 |
|   | 370 | 375 |
| Asn Ala Val Ala Phe Asp Pro Tyr Thr Thr Arg Ala Glu Glu Ala Ala |     | 380 |
| 385   | 390 | 395 |
| Thr Ala Ala Gly Ala Asp Gly Glu Arg Ser Gly Glu Glu Glu Glu Glu |     | 400 |
|   | 405 | 410 |
| Glu Pro Glu Ala Ala Gly Thr Gly Ser Ala Gly Gly Ala Pro Leu Ser |     | 415 |
|   | 420 | 425 |
| Pro Leu Pro Lys Ala Gly Ser Ile Thr Tyr Arg Phe Gly Ser Ala Gly |     | 430 |
|   | 435 | 440 |
| Gln Asp Thr Gln Phe Cys Leu Trp Asp Leu Thr Glu Asp Val Leu Tyr |     | 445 |
|   | 450 | 455 |
| Pro His Pro Pro Leu Ala Arg Thr Arg Thr Leu Pro Gly Thr Pro Gly |     | 460 |
| 465   | 470 | 475 |
| Thr Thr Pro Pro Ala Ala Ser Ser Ser Arg Gly Gly Glu Pro Gly Pro |     | 480 |
|   | 485 | 490 |
| Gly Pro Leu Pro Arg Ser Leu Ser Arg Ser Asn Ser Leu Pro His Pro |     | 495 |
|   | 500 | 505 |
| Ala Gly Gly Gly Lys Ala Gly Gly Pro Gly Val Ala Ala Glu Pro Gly |     | 510 |
|   | 515 | 520 |
| Thr Pro Phe Ser Ile Gly Arg Phe Ala Thr Leu Thr Leu Gln Glu Arg |     | 525 |
|   | 530 | 535 |
| Arg Asp Arg Gly Ala Glu Lys Glu His Lys Arg Tyr His Ser Leu Gly |     | 540 |
| 545   | 550 | 555 |
| Asn Ile Ser Arg Gly Gly Ser Gly Gly Ser Gly Ser Gly Gly Glu Lys |     | 560 |
|   | 565 | 570 |
| Pro Ser Gly Pro Val Pro Arg Ser Arg Leu Asp Pro Ala Lys Val Leu |     | 575 |
|   | 580 | 585 |
| Gly Thr Ala Leu Cys Pro Arg Ile His Glu Val Pro Leu Leu Glu Pro |     | 590 |
|   | 595 | 600 |
| Leu Val Cys Lys Lys Ile Ala Gln Glu Arg Leu Thr Val Leu Leu Phe |     | 605 |
|   | 610 | 615 |
| Leu Glu Asp Cys Ile Ile Thr Ala Cys Gln Glu Gly Leu Ile Cys Thr |     | 620 |
| 625   | 630 | 635 |
| Trp Ala Arg Pro Gly Lys Ala Phe Thr Asp Glu Glu Thr Glu Ala Gln |     | 640 |
|   | 645 | 650 |
| Thr Gly Glu Gly Ser Trp Pro Arg Ser Pro Ser Lys Ser Val Val Glu |     | 655 |
|   | 660 | 665 |
| Gly Ile Ser Ser Gln Pro Gly Asn Ser Pro Ser Gly Thr Val Val     |     | 670 |
|   | 675 | 680 |
|   |     | 685 |
|   |     | 687 |

&lt;210&gt; 2983

&lt;211&gt; 1211

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2983

|   |    |    |
|---|----|----|
| Arg Arg Phe Arg Leu Ser Ala His Arg Ala Gln Pro Cys Cys Arg Cys |    |    |
| 1   | 5  | 10 |
| Arg Gly Leu Glu Met Pro Arg Gly Val Phe Gln Gln Leu Ser Asn Leu |    | 15 |
|   | 20 | 25 |
| Val Leu Gln Glu Leu Asn Ala Asn Leu Ser Asn Leu Thr Ser Ala Phe |    | 30 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Glu | Lys | Ala | Thr | Ala | Glu | Lys | Ile | Lys | Cys | Gln | Gln | Glu | Ala | Asp | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Asn | Arg | Val | Ile | Leu | Leu | Ala | Asn | Arg | Leu | Val | Gly | Gly | Leu | Ala |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Glu | Asn | Ile | Arg | Trp | Ala | Glu | Ser | Val | Glu | Asn | Phe | Arg | Ser | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Val | Thr | Leu | Cys | Gly | Asp | Val | Leu | Leu | Ile | Ser | Ala | Phe | Val | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Tyr | Val | Gly | Tyr | Phe | Thr | Lys | Lys | Tyr | Arg | Asn | Glu | Leu | Met | Glu | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Trp | Ile | Pro | Tyr | Ile | His | Asn | Leu | Lys | Val | Pro | Ile | Pro | Ile | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Gly | Leu | Asp | Pro | Leu | Ser | Leu | Leu | Thr | Asp | Asp | Ala | Asp | Val | Ala |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Trp | Asn | Asn | Gln | Gly | Leu | Pro | Ser | Asp | Arg | Met | Ser | Thr | Glu | Asn |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Thr | Ile | Leu | Gly | Asn | Thr | Glu | Arg | Trp | Pro | Leu | Ile | Val | Asp | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Leu | Gln | Gly | Ile | Lys | Trp | Ile | Lys | Asn | Lys | Tyr | Arg | Ser | Glu | Leu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Lys | Ala | Ile | Arg | Leu | Gly | Gln | Lys | Ser | Tyr | Leu | Asp | Val | Ile | Glu | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Thr | Ser | Glu | Gly | Asp | Thr | Leu | Leu | Ile | Glu | Asn | Ile | Gly | Glu | Thr |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Asp | Pro | Ala | Leu | Asp | Pro | Leu | Leu | Gly | Arg | Asn | Thr | Ile | Lys | Lys |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Lys | Tyr | Ile | Lys | Ile | Gly | Asp | Lys | Glu | Val | Gly | Val | Pro | Pro | Gln |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Val | Pro | Pro | Asp | Pro | Thr | His | Gln | Val | Leu | Gln | Pro | Thr | Leu | Gln | Ala |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Arg | Asp | Ala | Gly | Ser | Val | His | Leu | Ile | Asn | Phe | Leu | Val | Thr | Arg | Asp |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Gly | Leu | Glu | Asp | Gln | Leu | Leu | Ala | Ala | Val | Val | Ala | Lys | Glu | Arg | Pro |
|     | 305 |     |     |     | 310 |     |     |     | 315 |     |     |     |     |     | 320 |
| Asp | Leu | Glu | Gln | Leu | Lys | Ala | Asn | Leu | Thr | Lys | Ser | Gln | Asn | Glu | Phe |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Lys | Ile | Val | Leu | Lys | Glu | Leu | Glu | Asp | Ser | Leu | Leu | Ala | Arg | Leu | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Ala | Ser | Gly | Asn | Phe | Leu | Gly | Asp | Thr | Ala | Leu | Val | Glu | Asn | Leu |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Glu | Thr | Thr | Lys | His | Thr | Ala | Ser | Glu | Ile | Glu | Glu | Lys | Val | Val | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |
| Ala | Lys | Ile | Thr | Glu | Val | Lys | Ile | Asn | Glu | Ala | Arg | Glu | Asn | Tyr | Arg |
|     | 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Pro | Ala | Ala | Glu | Arg | Ala | Ser | Leu | Leu | Tyr | Phe | Ile | Leu | Asn | Asp | Leu |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Asn | Lys | Ile | Asn | Pro | Val | Tyr | Gln | Phe | Ser | Leu | Lys | Ala | Phe | Asn | Val |
|     |     |     | 420 |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Val | Phe | Glu | Lys | Ala | Ile | Gln | Arg | Thr | Thr | Pro | Ala | Asn | Glu | Val | Lys |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |
| Gln | Arg | Val | Ile | Asn | Leu | Thr | Asp | Glu | Ile | Thr | Tyr | Ser | Val | Tyr | Met |
|     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |     |
| Tyr | Thr | Ala | Arg | Gly | Leu | Phe | Glu | Arg | Asp | Lys | Leu | Ile | Phe | Leu | Ala |
|     | 465 |     |     |     | 470 |     |     |     | 475 |     |     |     |     |     | 480 |
| Gln | Val | Thr | Phe | Gln | Val | Leu | Ser | Met | Lys | Lys | Glu | Leu | Asn | Pro | Val |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |
| Glu | Leu | Asp | Phe | Leu | Leu | Arg | Phe | Pro | Phe | Lys | Ala | Gly | Val | Val | Ser |
|     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |
| Pro | Val | Asp | Phe | Leu | Gln | His | Gln | Gly | Trp | Gly | Gly | Ile | Lys | Ala | Leu |
|     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |
| Ser | Glu | Met | Asp | Glu | Phe | Lys | Asn | Leu | Asp | Ser | Asp | Ile | Glu | Gly | Ser |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Ala | Lys | Arg | Trp | Lys | Lys | Leu | Val | Glu | Ser | Glu | Ala | Pro | Glu | Lys | Glu |

|   |      |      |      |      |      |      |
|---|------|------|------|------|------|------|
| 545   |      | 550  |      | 555  |      | 560  |
| Ile Phe Pro Lys Glu Trp Lys Asn Lys Thr Ala Leu Gln Lys Leu Cys |      |      |      |      |      |      |
|   | 565  |      | 570  |      | 575  |      |
| Met Val Arg Cys Leu Arg Pro Asp Arg Met Thr Tyr Ala Ile Lys Asn |      |      |      |      |      |      |
|   | 580  |      | 585  |      | 590  |      |
| Phe Val Glu Glu Lys Met Gly Ser Lys Phe Val Glu Gly Arg Ser Val |      |      |      |      |      |      |
|   | 595  |      | 600  |      | 605  |      |
| Glu Phe Ser Lys Ser Tyr Glu Glu Ser Ser Pro Ser Thr Ser Ile Phe |      |      |      |      |      |      |
|   | 610  |      | 615  |      | 620  |      |
| Phe Ile Leu Ser Pro Gly Val Asp Pro Leu Lys Asp Val Glu Ala Leu |      |      |      |      |      |      |
| 625   |      | 630  |      | 635  |      | 640  |
| Gly Lys Lys Leu Gly Phe Thr Ile Asp Asn Gly Lys Leu His Asn Val |      |      |      |      |      |      |
|   | 645  |      | 650  |      | 655  |      |
| Ser Leu Gly Gln Gly Gln Glu Val Val Ala Glu Asn Ala Leu Asp Val |      |      |      |      |      |      |
|   | 660  |      | 665  |      | 670  |      |
| Ala Ala Glu Lys Gly His Trp Val Ile Leu Gln Asn Ile His Leu Val |      |      |      |      |      |      |
|   | 675  |      | 680  |      | 685  |      |
| Ala Arg Trp Leu Gly Thr Leu Asp Lys Lys Leu Glu Arg Tyr Ser Thr |      |      |      |      |      |      |
|   | 690  |      | 695  |      | 700  |      |
| Gly Arg His Glu Asp Tyr Arg Val Phe Ile Arg Ala Glu Pro Ala Pro |      |      |      |      |      |      |
| 705   |      | 710  |      | 715  |      | 720  |
| Ser Pro Glu Thr His Ile Ile Pro Gln Gly Ile Leu Glu Asn Ala Ile |      |      |      |      |      |      |
|   | 725  |      | 730  |      | 735  |      |
| Lys Ile Thr Asn Glu Pro Pro Thr Gly Met Tyr Ala Asn Leu Tyr Lys |      |      |      |      |      |      |
|   | 740  |      | 745  |      | 750  |      |
| Ala Leu Asp Leu Phe Thr Gln Asp Thr Leu Glu Met Cys Thr Lys Glu |      |      |      |      |      |      |
|   | 755  |      | 760  |      | 765  |      |
| Met Glu Phe Lys Cys Met Leu Phe Ala Leu Cys Tyr Phe His Ala Val |      |      |      |      |      |      |
|   | 770  |      | 775  |      | 780  |      |
| Val Ala Glu Arg Arg Lys Phe Gly Ala Gln Gly Trp Asn Arg Ser Tyr |      |      |      |      |      |      |
| 785   |      | 790  |      | 795  |      | 800  |
| Pro Phe Asn Asn Gly Asp Leu Thr Ile Ser Ile Asn Val Leu Tyr Asn |      |      |      |      |      |      |
|   | 805  |      | 810  |      | 815  |      |
| Tyr Leu Glu Ala Asn Pro Lys Val Pro Trp Asp Asp Leu Arg Tyr Leu |      |      |      |      |      |      |
|   | 820  |      | 825  |      | 830  |      |
| Phe Gly Glu Ile Met Tyr Gly Gly His Ile Thr Asp Asp Trp Asp Arg |      |      |      |      |      |      |
|   | 835  |      | 840  |      | 845  |      |
| Arg Leu Cys Arg Thr Tyr Leu Ala Glu Tyr Ile Arg Thr Glu Met Leu |      |      |      |      |      |      |
|   | 850  |      | 855  |      | 860  |      |
| Glu Gly Asp Val Leu Leu Ala Pro Gly Phe Gln Ile Pro Pro Asn Leu |      |      |      |      |      |      |
| 865   |      | 870  |      | 875  |      | 880  |
| Asp Tyr Lys Gly Tyr His Glu Tyr Ile Asp Glu Asn Leu Pro Pro Glu |      |      |      |      |      |      |
|   | 885  |      | 890  |      | 895  |      |
| Ser Pro Tyr Leu Tyr Gly Leu His Pro Asn Ala Glu Ile Gly Phe Leu |      |      |      |      |      |      |
|   | 900  |      | 905  |      | 910  |      |
| Thr Val Thr Ser Glu Lys Leu Phe Arg Thr Val Leu Glu Met Gln Pro |      |      |      |      |      |      |
|   | 915  |      | 920  |      | 925  |      |
| Lys Glu Thr Asp Ser Gly Ala Gly Thr Gly Val Ser Arg Glu Glu Lys |      |      |      |      |      |      |
|   | 930  |      | 935  |      | 940  |      |
| Val Lys Ala Val Leu Asp Asp Ile Leu Glu Lys Ile Pro Glu Thr Phe |      |      |      |      |      |      |
| 945   |      | 950  |      | 955  |      | 960  |
| Asn Met Ala Glu Ile Met Ala Lys Ala Ala Glu Lys Thr Pro Tyr Val |      |      |      |      |      |      |
|   | 965  |      | 970  |      | 975  |      |
| Val Val Ala Phe Gln Glu Cys Glu Arg Met Asn Ile Leu Thr Asn Glu |      |      |      |      |      |      |
|   | 980  |      | 985  |      | 990  |      |
| Met Arg Arg Ser Leu Lys Glu Leu Asn Leu Gly Leu Lys Gly Glu Leu |      |      |      |      |      |      |
|   | 995  |      | 1000 |      | 1005 |      |
| Thr Ile Thr Thr Asp Val Glu Asp Leu Ser Thr Ala Leu Phe Tyr Asp |      |      |      |      |      |      |
|   | 1010 |      | 1015 |      | 1020 |      |
| Thr Val Pro Asp Thr Trp Val Ala Arg Ala Tyr Pro Ser Met Met Gly |      |      |      |      |      |      |
| 1025  |      | 1030 |      | 1035 |      | 1040 |
| Leu Ala Ala Trp Tyr Ala Asn Leu Leu Leu Arg Ile Arg Glu Leu Glu |      |      |      |      |      |      |
|   | 1045 |      | 1050 |      | 1055 |      |
| Ala Trp Thr Thr Asp Phe Ala Leu Pro Thr Thr Val Trp Leu Ala Gly |      |      |      |      |      |      |

|      |      |      |      |     |      |     |      |     |      |      |     |      |     |      |      |
|------|------|------|------|-----|------|-----|------|-----|------|------|-----|------|-----|------|------|
|      | 1060 |      | 1065 |     | 1070 |     |      |     |      |      |     |      |     |      |      |
| Phe  | Phe  | Asn  | Pro  | Gln | Ser  | Phe | Leu  | Thr | Ala  | Ile  | Met | Gln  | Ser | Met  | Ala  |
|      | 1075 |      |      |     |      |     | 1080 |     |      |      |     | 1085 |     |      |      |
| Arg  | Lys  | Asn  | Glu  | Trp | Pro  | Leu | Asp  | Lys | Met  | Cys  | Leu | Ser  | Val | Glu  | Val  |
|      | 1090 |      |      |     |      |     | 1095 |     |      |      |     | 1100 |     |      |      |
| Thr  | Lys  | Lys  | Asn  | Arg | Glu  | Asp | Met  | Thr | Ala  | Pro  | Pro | Arg  | Glu | Gly  | Ser  |
| 1105 |      |      |      |     |      |     | 1110 |     |      |      |     | 1115 |     |      | 1120 |
| Tyr  | Val  | Tyr  | Gly  | Leu | Phe  | Met | Glu  | Gly | Ala  | Arg  | Trp | Asp  | Thr | Gln  | Thr  |
|      |      |      | 1125 |     |      |     |      |     | 1130 |      |     |      |     | 1135 |      |
| Gly  | Val  | Ile  | Ala  | Glu | Ala  | Arg | Leu  | Lys | Glu  | Leu  | Thr | Pro  | Ala | Met  | Pro  |
|      |      |      | 1140 |     |      |     |      |     | 1145 |      |     |      |     | 1150 |      |
| Val  | Ile  | Phe  | Ile  | Lys | Ala  | Ile | Pro  | Val | Ala  | Arg  | Met | Glu  | Thr | Lys  | Asn  |
|      |      | 1155 |      |     |      |     | 1160 |     |      |      |     | 1165 |     |      |      |
| Ile  | Tyr  | Glu  | Cys  | Pro | Val  | Tyr | Lys  | Thr | Arg  | Ile  | Arg | Gly  | Pro | Thr  | Tyr  |
|      | 1170 |      |      |     |      |     | 1175 |     |      |      |     | 1180 |     |      |      |
| Val  | Trp  | Thr  | Phe  | Asn | Leu  | Lys | Thr  | Lys | Glu  | Lys  | Ala | Ala  | Lys | Trp  | Ile  |
| 1185 |      |      |      |     | 1190 |     |      |     |      | 1195 |     |      |     |      | 1200 |
| Leu  | Ala  | Ala  | Val  | Ala | Leu  | Leu | Leu  | Gln | Val  |      |     |      |     |      |      |
|      |      |      | 1205 |     |      |     |      |     | 1210 |      |     |      |     |      |      |

<210> 2984  
 <211> 489  
 <212> PRT  
 <213> Homo sapiens

<400> 2984

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Leu | Phe | Pro | Gly | Ile | Ala | Met | Glu | Thr | Pro | Gly | Ala | Ser | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ser | Leu | Leu | Leu | Pro | Ala | Ala | Ser | Arg | Pro | Pro | Arg | Lys | Arg | Glu |
|     |     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |
| Ala | Gly | Glu | Ala | Gly | Ala | Ala | Thr | Ser | Lys | Gln | Arg | Val | Leu | Asp | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Glu | Tyr | Ile | Glu | Gly | Leu | Gln | Thr | Val | Ile | Gln | Arg | Asp | Phe | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Asp | Val | Glu | Lys | Leu | Gln | Ala | Gln | Lys | Glu | Tyr | Leu | Glu | Ala | Glu |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Glu | Asn | Gly | Asp | Leu | Glu | Arg | Met | Arg | Gln | Ile | Ala | Ile | Lys | Phe | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Ala | Leu | Gly | Lys | Met | Ser | Arg | Glu | Pro | Pro | Pro | Pro | Tyr | Val | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Ala | Thr | Phe | Glu | Thr | Pro | Glu | Val | His | Ala | Gly | Thr | Gly | Val | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Asn | Lys | Pro | Arg | Pro | Arg | Gly | Arg | Gly | Leu | Glu | Asp | Gly | Glu | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Glu | Glu | Glu | Glu | Lys | Glu | Pro | Leu | Pro | Ser | Leu | Asp | Val | Phe | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Arg | Tyr | Thr | Ser | Glu | Asp | Asn | Ala | Ser | Phe | Gln | Glu | Ile | Met | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Ala | Lys | Glu | Arg | Ser | Arg | Ala | Arg | His | Ala | Trp | Leu | Tyr | Gln | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Glu | Glu | Phe | Glu | Lys | Arg | Gln | Lys | Asp | Asn | Leu | Glu | Leu | Pro | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |
| Ala | Glu | His | Gln | Ala | Ile | Glu | Ser | Ser | Gln | Ala | Ser | Val | Glu | Thr | Trp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Tyr | Lys | Ala | Lys | Asn | Ser | Leu | Met | Tyr | Tyr | Pro | Glu | Gly | Val | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Glu | Glu | Gln | Leu | Phe | Lys | Lys | Pro | Arg | Gln | Val | Val | His | Lys | Asn |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Arg | Phe | Leu | Arg | Asp | Pro | Phe | Ser | Gln | Ala | Leu | Ser | Arg | Cys | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Gln | Gln | Ala | Ala | Ala | Leu | Asn | Ala | Gln | His | Lys | Gln | Gly | Lys | Val |

|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Gly Pro Asp Gly Lys Glu Leu Ile Pro Gln Glu Ser Pro Arg Val Gly |     |     |
| 290   | 295 | 300 |
| Gly Phe Gly Phe Val Ala Thr Pro Ser Pro Ala Pro Gly Val Asn Glu |     |     |
| 305   | 310 | 315 |
| Ser Pro Met Met Thr Trp Gly Glu Val Glu Asn Thr Pro Leu Arg Val |     |     |
|   | 325 | 330 |
| Glu Gly Ser Glu Thr Pro Tyr Val Asp Arg Thr Pro Gly Pro Ala Phe |     |     |
|   | 340 | 345 |
| Lys Ile Leu Glu Pro Gly Arg Arg Glu Arg Leu Gly Leu Lys Met Ala |     |     |
|   | 355 | 360 |
| Asn Glu Ala Ala Ala Lys Asn Arg Ala Lys Lys Gln Glu Ala Leu Arg |     |     |
|   | 370 | 375 |
| Arg Val Thr Glu Asn Leu Ala Ser Leu Thr Pro Lys Gly Leu Ser Pro |     |     |
| 385   | 390 | 395 |
| Ala Met Ser Pro Ala Leu Gln Arg Leu Val Ser Arg Thr Ala Ser Lys |     |     |
|   | 405 | 410 |
| Tyr Thr Asp Arg Ala Leu Arg Ala Ser Tyr Thr Pro Ser Pro Ala Arg |     |     |
|   | 420 | 425 |
| Ser Thr His Leu Lys Asn Pro Gly Pro Val Gly Cys Arg Pro Pro Gln |     |     |
|   | 435 | 440 |
| Ser Thr Pro Gly Ala Pro Gly Ser Ala Thr Arg Thr Pro Leu Thr Gln |     |     |
|   | 450 | 455 |
| Asp Pro Ala Ser Ile Thr Asp Asn Leu Leu Gln Leu Pro Ala Arg Arg |     |     |
| 465   | 470 | 475 |
| Lys Ala Ser Asp Phe Phe   |     |     |
|   | 485 | 486 |

&lt;210&gt; 2985

&lt;211&gt; 571

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2985

|   |     |
|---|-----|
| Ala Ser Thr Gln Glu Ala Gly Leu Leu Ser Pro Pro Gly Val Gly Ala |     |
| 1   | 5   |
| Gln Arg Cys Trp Asn Phe Val Ala Cys Leu Pro Val Arg Ala Cys Ala |     |
|   | 20  |
| Asp Met Ala Ser Asn Asp Tyr Thr Gln Gln Ala Thr Gln Ser Tyr Gly |     |
|   | 35  |
| Ala Tyr Pro Thr Gln Pro Gly Gln Gly Tyr Ser Gln Gln Ser Ser Gln |     |
|   | 50  |
| Pro Tyr Gly Gln Gln Ser Tyr Ser Gly Tyr Ser Gln Ser Thr Asp Thr |     |
|   | 65  |
| Ser Gly Tyr Gly Gln Ser Ser Tyr Ser Ser Tyr Gly Gln Ser Gln Asn |     |
|   | 85  |
| Ser Tyr Gly Thr Gln Ser Thr Pro Gln Gly Tyr Gly Ser Thr Gly Gly |     |
|   | 100 |
| Tyr Gly Ser Ser Gln Ser Ser Gln Ser Ser Tyr Gly Gln Gln Ser Ser |     |
|   | 115 |
| Tyr Pro Gly Tyr Gly Gln Gln Pro Ala Pro Ser Ser Thr Ser Gly Ser |     |
|   | 130 |
| Tyr Gly Ser Ser Ser Gln Ser Ser Ser Tyr Gly Gln Pro Gln Ser Gly |     |
| 145   | 150 |
| Ser Tyr Ser Gln Gln Pro Ser Tyr Gly Gly Gln Gln Gln Ser Tyr Gly |     |
|   | 165 |
| Gln Gln Gln Ser Tyr Asn Pro Pro Arg Gly Tyr Gly Gln Gln Asn Gln |     |
|   | 180 |
| Tyr Asn Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser     |     |
|   | 195 |
| Tyr Gly Gln Asp Gln Ser Ser Met Ser Gly Ser Gly Gly Gly Gly Gly |     |
|   | 200 |
|   | 205 |



|                     |                         |                         |
|---------------------|-------------------------|-------------------------|
| 210                 | 215                     | 220                     |
| Gly Gly Gly Gly Gly | Ser Gly Gly Gly Gly     | Gly Tyr Gly Asn Gln     |
| 225                 | 230                     | 235                     |
| Asp Gln Thr Gly Ala | Gly Ser Arg Gly Tyr     | Arg Gln Gln Asp Arg     |
| 245                 | 250                     | 255                     |
| Gly Gly Arg Cys Arg | Gly Gly Ser Gly Gly     | Gly Gly Ser Gly Gly Ala |
| 260                 | 265                     | 270                     |
| Ala Gly Tyr Asn Arg | Ser Ser Gly Gly Tyr Glu | Pro Arg Gly Arg Gly     |
| 275                 | 280                     | 285                     |
| Gly Gly Arg Gly Gly | Arg Gly Gly Met Gly Gly | Ser Asp Arg Gly Gly     |
| 290                 | 295                     | 300                     |
| Phe Asn Lys Phe Gly | Gly Pro Arg Asp Gln     | Gly Ser Arg His Asp Ser |
| 305                 | 310                     | 315                     |
| Glu Gln Asp Asn Ser | Asp Asn Asn Thr Ile     | Phe Val Gln Gly Leu Gly |
| 325                 | 330                     | 335                     |
| Glu Asn Val Thr Ile | Glu Ser Val Ala Asp     | Tyr Phe Lys Gln Ile Gly |
| 340                 | 345                     | 350                     |
| Ile Ile Lys Thr Asn | Lys Lys Thr Gly Gln     | Pro Met Ile Asn Leu Tyr |
| 355                 | 360                     | 365                     |
| Thr Asp Arg Glu Thr | Gly Lys Leu Lys Gly     | Glu Ala Thr Val Ser Phe |
| 370                 | 375                     | 380                     |
| Asp Asp Pro Pro Ser | Ala Lys Ala Ala Ile     | Asp Trp Phe Asp Gly Lys |
| 385                 | 390                     | 395                     |
| Glu Phe Ser Gly Asn | Pro Ile Lys Val Ser     | Phe Ala Thr Arg Arg Ala |
| 405                 | 410                     | 415                     |
| Asp Phe Asn Arg Gly | Gly Gly Gly Asn Gly     | Arg Gly Gly Arg Gly     |
| 420                 | 425                     | 430                     |
| Gly Pro Met Gly Arg | Gly Gly Tyr Gly Gly     | Gly Gly Ser Gly Gly Gly |
| 435                 | 440                     | 445                     |
| Gly Arg Gly Gly Phe | Pro Ser Gly Gly Gly     | Gly Gly Gly Gln Gln     |
| 450                 | 455                     | 460                     |
| Arg Ala Gly Asp Trp | Lys Cys Pro Asn Pro     | Thr Cys Glu Asn Met Asn |
| 465                 | 470                     | 475                     |
| Phe Ser Trp Arg Asn | Glu Cys Asn Gln Cys     | Lys Ala Pro Lys Pro Asp |
| 485                 | 490                     | 495                     |
| Gly Pro Gly Gly Gly | Pro Gly Gly Ser His     | Met Gly Gly Asn Tyr Gly |
| 500                 | 505                     | 510                     |
| Asp Asp Arg Arg Gly | Gly Gly Arg Gly Tyr     | Asp Arg Gly Gly Tyr Arg |
| 515                 | 520                     | 525                     |
| Gly Arg Gly Gly Asp | Arg Gly Phe Arg Gly     | Gly Arg Gly Gly Gly     |
| 530                 | 535                     | 540                     |
| Asp Arg Gly Gly Phe | Gly Pro Gly Lys Met     | Asp Ser Arg Gly Glu His |
| 545                 | 550                     | 555                     |
| Arg Gln Asp Arg Arg | Glu Arg Pro Tyr         |                         |
| 565                 | 569                     |                         |

<210> 2986  
 <211> 571  
 <212> PRT  
 <213> Homo sapiens

<400> 2986  
 Ala Ser Thr Gln Glu Ala Gly Leu Leu Ser Pro Pro Gly Val Gly Ala  
 1 5 10 15  
 Gln Arg Cys Trp Asn Phe Val Ala Cys Leu Pro Val Arg Ala Cys Ala  
 20 25 30  
 Asp Met Ala Ser Asn Asp Tyr Thr Gln Gln Ala Thr Gln Ser Tyr Gly  
 35 40 45  
 Ala Tyr Pro Thr Gln Pro Gly Gln Gly Tyr Ser Gln Gln Ser Ser Gln  
 50 55 60  
 Pro Tyr Gly Gln Gln Ser Tyr Ser Gly Tyr Ser Gln Ser Thr Asp Thr

|   |     |     |     |
|---|-----|-----|-----|
| 65  | 70  | 75  | 80  |
| Ser Gly Tyr Gly Gln Ser Ser Tyr Ser Ser Tyr Gly Gln Ser Gln Asn |     |     |     |
|   | 85  | 90  | 95  |
| Ser Tyr Gly Thr Gln Ser Thr Pro Gln Gly Tyr Gly Ser Thr Gly Gly |     |     |     |
|   | 100 | 105 | 110 |
| Tyr Gly Ser Ser Gln Ser Ser Gln Ser Ser Tyr Gly Gln Gln Ser Ser |     |     |     |
|   | 115 | 120 | 125 |
| Tyr Pro Gly Tyr Gly Gln Gln Pro Ala Pro Ser Ser Thr Ser Gly Ser |     |     |     |
|   | 130 | 135 | 140 |
| Tyr Gly Ser Ser Ser Gln Ser Ser Ser Tyr Gly Gln Pro Gln Ser Gly |     |     |     |
| 145   | 150 | 155 | 160 |
| Ser Tyr Ser Gln Gln Pro Ser Tyr Gly Gly Gln Gln Gln Ser Tyr Gly |     |     |     |
|   | 165 | 170 | 175 |
| Gln Gln Gln Ser Tyr Asn Pro Pro Arg Gly Tyr Gly Gln Gln Asn Gln |     |     |     |
|   | 180 | 185 | 190 |
| Tyr Asn Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser     |     |     |     |
|   | 195 | 200 | 205 |
| Tyr Gly Gln Asp Gln Ser Ser Met Ser Gly Ser Gly Gly Gly Gly Gly |     |     |     |
|   | 210 | 215 | 220 |
| Gly Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Tyr Gly Asn Gln |     |     |     |
| 225   | 230 | 235 | 240 |
| Asp Gln Thr Gly Ala Ala Gly Ser Arg Gly Tyr Arg Gln Gln Asp Arg |     |     |     |
|   | 245 | 250 | 255 |
| Gly Gly Arg Cys Arg Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Ala |     |     |     |
|   | 260 | 265 | 270 |
| Ala Gly Tyr Asn Arg Ser Ser Gly Gly Tyr Glu Pro Arg Gly Arg Gly |     |     |     |
|   | 275 | 280 | 285 |
| Gly Gly Arg Gly Gly Arg Gly Gly Met Gly Gly Ser Asp Arg Gly Gly |     |     |     |
|   | 290 | 295 | 300 |
| Phe Asn Lys Phe Gly Gly Pro Arg Asp Gln Gly Ser Arg His Asp Ser |     |     |     |
| 305   | 310 | 315 | 320 |
| Glu Gln Asp Asn Ser Asp Asn Asn Thr Ile Phe Val Gln Gly Leu Gly |     |     |     |
|   | 325 | 330 | 335 |
| Glu Asn Val Thr Ile Glu Ser Val Ala Asp Tyr Phe Lys Gln Ile Gly |     |     |     |
|   | 340 | 345 | 350 |
| Ile Ile Lys Thr Asn Lys Lys Thr Gly Gln Pro Met Ile Asn Leu Tyr |     |     |     |
|   | 355 | 360 | 365 |
| Thr Asp Arg Glu Thr Gly Lys Leu Lys Gly Glu Ala Thr Val Ser Phe |     |     |     |
|   | 370 | 375 | 380 |
| Asp Asp Pro Pro Ser Ala Lys Ala Ala Ile Asp Trp Phe Asp Gly Lys |     |     |     |
| 385   | 390 | 395 | 400 |
| Glu Phe Ser Gly Asn Pro Ile Lys Val Ser Phe Ala Thr Arg Arg Ala |     |     |     |
|   | 405 | 410 | 415 |
| Asp Phe Asn Arg Gly Gly Gly Asn Gly Arg Gly Gly Arg Gly Arg Gly |     |     |     |
|   | 420 | 425 | 430 |
| Gly Pro Met Gly Arg Gly Gly Tyr Gly Gly Gly Gly Ser Gly Gly Gly |     |     |     |
|   | 435 | 440 | 445 |
| Gly Arg Gly Gly Phe Pro Ser Gly Gly Gly Gly Gly Gly Gln Gln     |     |     |     |
|   | 450 | 455 | 460 |
| Arg Ala Gly Asp Trp Lys Cys Pro Asn Pro Thr Cys Glu Asn Met Asn |     |     |     |
| 465   | 470 | 475 | 480 |
| Phe Ser Trp Arg Asn Glu Cys Asn Gln Cys Lys Ala Pro Lys Pro Asp |     |     |     |
|   | 485 | 490 | 495 |
| Gly Pro Gly Gly Gly Pro Gly Gly Ser His Met Gly Gly Asn Tyr Gly |     |     |     |
|   | 500 | 505 | 510 |
| Asp Asp Arg Arg Gly Gly Arg Gly Gly Tyr Asp Arg Gly Gly Tyr Arg |     |     |     |
|   | 515 | 520 | 525 |
| Gly Arg Gly Gly Asp Arg Gly Gly Phe Arg Gly Gly Arg Gly Gly Gly |     |     |     |
|   | 530 | 535 | 540 |
| Asp Arg Gly Gly Phe Gly Pro Gly Lys Met Asp Ser Arg Gly Glu His |     |     |     |
| 545   | 550 | 555 | 560 |
| Arg Gln Asp Arg Arg Glu Arg Pro Tyr                             |     |     |     |
|   | 565 | 569 |     |

<210> 2987  
 <211> 161  
 <212> PRT  
 <213> Homo sapiens

<400> 2987  
 Gly Gly Ala Lys Ala Gly Gly Ala Pro His Pro Phe Thr Leu Pro Phe  
 1 5 10 15  
 Arg His Val Gly Gly Leu Ser Ala Ala Pro Glu Glu Val Glu Gly Met  
 20 25 30  
 Leu Trp Ala Gly Ala Arg Gln His Gly Arg Asn Trp Arg Lys Arg Glu  
 35 40 45  
 Thr Ser Pro Gly Thr Gln Gly Pro Leu Pro Pro Val Pro Arg Val Pro  
 50 55 60  
 Pro Gly Pro Asp Gly Pro His Ala Ile Ala Pro Thr Leu Ser Trp Ala  
 65 70 75 80  
 Ile Pro Arg Gln Gln Cys Ser Pro Gln Pro Gly Arg Leu Asn Ala Leu  
 85 90 95  
 Pro Pro Asp Arg Cys Ser Gly Pro His Phe Gly Asp Arg Ala Pro Glu  
 100 105 110  
 Ser Cys Phe Pro Gly Ala Cys Ser Val Ser Gly Ala Cys Ala Phe Lys  
 115 120 125  
 Gly Thr Arg Pro Ala Cys Pro Pro Gln Glu Pro Ser Leu Arg Ser Ser  
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 Arg Asn Arg Leu Arg Glu Gly Gln Thr Phe Gly Arg Met Glu Ile  
 145 150 155 159

<210> 2988  
 <211> 339  
 <212> PRT  
 <213> Homo sapiens

<400> 2988  
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 Ser Asp Arg Pro Val Asp Cys Leu Asp Gly Ala Cys Leu Ala Ile Asp  
 20 25 30  
 Pro Leu Arg Val Ala Pro Leu Pro Leu Tyr Ala Ala Ile Phe Leu Val  
 35 40 45  
 Gly Val Pro Gly Asn Ala Met Val Ala Trp Val Ala Gly Lys Val Ala  
 50 55 60  
 Arg Arg Arg Val Gly Ala Thr Trp Leu Leu His Leu Ala Val Ala Asp  
 65 70 75 80  
 Leu Leu Cys Cys Leu Ser Leu Pro Ile Leu Ala Val Pro Ile Ala Arg  
 85 90 95  
 Gly Gly His Trp Pro Tyr Gly Ala Val Gly Cys Arg Ala Leu Pro Ser  
 100 105 110  
 Ile Ile Leu Leu Thr Met Tyr Ala Ser Val Leu Leu Leu Ala Ala Leu  
 115 120 125  
 Ser Ala Asp Leu Cys Phe Leu Ala Leu Gly Pro Ala Trp Cys Leu Arg  
 130 135 140  
 Phe Ser Gly Ala Cys Gly Val Gln Val Ala Cys Gly Ala Ala Trp Thr  
 145 150 155 160  
 Leu Ala Leu Leu Leu Thr Val Pro Ser Ala Ile Tyr Arg Arg Leu His  
 165 170 175  
 Gln Glu His Phe Pro Ala Arg Leu Gln Cys Val Val Asp Tyr Gly Gly  
 180 185 190  
 Ser Ser Ser Thr Glu Asn Ala Val Thr Ala Ile Arg Phe Leu Phe Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 195 |     | 200 |     | 205 |     |     |     |     |     |     |     |     |     |     |
| Phe | Leu | Gly | Pro | Leu | Val | Ala | Val | Ala | Ser | Cys | His | Ser | Ala | Leu | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Cys | Trp | Ala | Ala | Arg | Arg | Cys | Arg | Pro | Leu | Gly | Thr | Ala | Ile | Val | Val |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Gly | Phe | Phe | Val | Cys | Trp | Ala | Pro | Tyr | His | Leu | Leu | Gly | Leu | Val | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Val | Ala | Ala | Pro | Asn | Ser | Ala | Leu | Leu | Ala | Arg | Ala | Leu | Arg | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Pro | Leu | Ile | Val | Gly | Leu | Ala | Leu | Ala | His | Ser | Cys | Leu | Asn | Pro |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Met | Leu | Phe | Leu | Tyr | Phe | Gly | Arg | Ala | Gln | Leu | Arg | Arg | Ser | Leu | Pro |
| 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ala | Ala | Cys | His | Trp | Ala | Leu | Arg | Glu | Ser | Gln | Gly | Gln | Asp | Glu | Ser |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Val | Asp | Ser | Lys | Lys | Ser | Thr | Ser | His | Asp | Leu | Val | Ser | Glu | Met | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 337 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 2989  
 <211> 1350  
 <212> PRT  
 <213> Homo sapiens

<400> 2989

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Gln | Leu | Phe | Cys | Phe | Trp | Val | Gly | Lys | Ala | Gly | Asp | Ile | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Asp | Gln | Asp | Lys | Glu | Gln | Lys | Asp | Pro | Tyr | Phe | Val | Glu | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Tyr | Gly | Tyr | Gln | Leu | Asp | Leu | Asp | Phe | Leu | Lys | Tyr | Val | Asp | Asp |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ile | Gln | Lys | Gly | Asn | Thr | Ile | Lys | Arg | Leu | Asn | Ile | Gln | Lys | Arg | Arg |
| 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Pro | Ser | Val | Pro | Cys | Pro | Glu | Pro | Arg | Thr | Thr | Ser | Gly | Gln | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Ile | Trp | Thr | Ser | Thr | Glu | Ser | Leu | Ser | Ser | Ser | Asn | Ser | Asp | Asp |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asn | Lys | Gln | Cys | Pro | Asn | Phe | Leu | Ile | Ala | Arg | Ser | Gln | Val | Thr | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Pro | Ile | Ser | Lys | Pro | Pro | Pro | Pro | Leu | Glu | Thr | Ser | Leu | Pro | Phe |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |
| Leu | Thr | Ile | Pro | Glu | Asn | Arg | Gln | Leu | Pro | Pro | Pro | Ser | Pro | Gln | Leu |
| 130 |     |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Pro | Lys | His | Asn | Leu | His | Val | Thr | Lys | Thr | Leu | Met | Glu | Thr | Arg | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Arg | Leu | Glu | Gln | Glu | Arg | Ala | Thr | Met | Gln | Met | Thr | Pro | Gly | Glu | Phe |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Arg | Pro | Arg | Leu | Ala | Ser | Phe | Gly | Gly | Met | Gly | Thr | Thr | Ser | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Pro | Ser | Phe | Val | Gly | Ser | Gly | Asn | His | Asn | Pro | Ala | Lys | His | Gln |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Gln | Asn | Gly | Tyr | Gln | Gly | Asn | Gly | Asp | Tyr | Gly | Ser | Tyr | Ala | Pro |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Ala | Pro | Thr | Thr | Ser | Ser | Met | Gly | Ser | Ser | Ile | Arg | His | Ser | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     | 240 |     |
| Leu | Ser | Ser | Gly | Ile | Ser | Thr | Pro | Val | Thr | Asn | Val | Ser | Pro | Met | His |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Gln | His | Ile | Arg | Glu | Gln | Met | Ala | Ile | Ala | Leu | Lys | Arg | Leu | Lys |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Leu | Glu | Glu | Gln | Val | Arg | Thr | Ile | Pro | Val | Leu | Gln | Val | Lys | Ile |



|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Ser Val Leu Gln Glu Glu Lys Arg Gln Leu Val Ser Gln Leu Lys Asn |     |     |
| 290   | 295 | 300 |
| Gln Arg Ala Ala Ser Gln Ile Asn Val Cys Gly Val Arg Lys Arg Ser |     |     |
| 305   | 310 | 315 |
| Tyr Ser Ala Gly Asn Ala Ser Gln Leu Glu Gln Leu Ser Arg Ala Arg |     |     |
| 325   | 330 | 335 |
| Arg Ser Gly Gly Glu Leu Tyr Ile Asp Tyr Glu Glu Glu Glu Met Glu |     |     |
| 340   | 345 | 350 |
| Thr Val Glu Gln Ser Thr Gln Arg Ile Lys Glu Phe Arg Gln Leu Thr |     |     |
| 355   | 360 | 365 |
| Ala Asp Met Gln Ala Leu Glu Gln Lys Ile Gln Asp Ser Ser Cys Glu |     |     |
| 370   | 375 | 380 |
| Ala Ser Ser Glu Leu Arg Glu Asn Gly Glu Cys Arg Ser Val Ala Val |     |     |
| 385   | 390 | 395 |
| Gly Ala Glu Glu Asn Met Asn Asp Ile Val Val Tyr His Arg Gly Ser |     |     |
| 405   | 410 | 415 |
| Arg Ser Cys Lys Asp Ala Ala Val Gly Thr Leu Val Glu Met Arg Asn |     |     |
| 420   | 425 | 430 |
| Cys Gly Val Ser Val Thr Glu Ala Met Leu Gly Val Met Thr Glu Ala |     |     |
| 435   | 440 | 445 |
| Asp Lys Glu Ile Glu Leu Gln Gln Gln Thr Ile Glu Ser Leu Lys Glu |     |     |
| 450   | 455 | 460 |
| Lys Ile Tyr Arg Leu Glu Val Gln Leu Arg Glu Thr Thr His Asp Arg |     |     |
| 465   | 470 | 475 |
| Glu Met Thr Lys Leu Lys Gln Glu Leu Gln Ala Ala Gly Ser Arg Lys |     |     |
| 485   | 490 | 495 |
| Lys Val Asp Lys Ala Thr Met Ala Gln Pro Leu Val Phe Ser Lys Val |     |     |
| 500   | 505 | 510 |
| Val Glu Ala Val Val Gln Thr Arg Asp Gln Met Val Gly Ser His Met |     |     |
| 515   | 520 | 525 |
| Asp Leu Val Asp Thr Cys Val Gly Thr Ser Val Glu Thr Asn Ser Val |     |     |
| 530   | 535 | 540 |
| Gly Ile Ser Cys Gln Pro Glu Cys Lys Asn Lys Val Val Gly Pro Glu |     |     |
| 545   | 550 | 555 |
| Leu Pro Met Asn Trp Trp Ile Val Lys Glu Arg Val Glu Met His Asp |     |     |
| 565   | 570 | 575 |
| Arg Cys Ala Gly Arg Ser Val Glu Met Cys Asp Lys Ser Val Ser Val |     |     |
| 580   | 585 | 590 |
| Glu Val Ser Val Cys Glu Thr Gly Ser Asn Thr Glu Glu Ser Val Asn |     |     |
| 595   | 600 | 605 |
| Asp Leu Thr Leu Leu Lys Thr Asn Leu Asn Leu Lys Glu Val Arg Ser |     |     |
| 610   | 615 | 620 |
| Ile Gly Cys Gly Asp Cys Ser Val Asp Val Thr Val Cys Ser Pro Lys |     |     |
| 625   | 630 | 635 |
| Glu Cys Ala Ser Arg Gly Val Asn Thr Glu Ala Val Ser Gln Val Glu |     |     |
| 645   | 650 | 655 |
| Ala Ala Val Met Ala Val Pro Arg Thr Ala Asp Gln Asp Thr Ser Thr |     |     |
| 660   | 665 | 670 |
| Asp Leu Glu Gln Val His Gln Phe Thr Asn Thr Glu Thr Ala Thr Leu |     |     |
| 675   | 680 | 685 |
| Ile Glu Ser Cys Thr Asn Thr Cys Leu Ser Thr Leu Asp Lys Gln Thr |     |     |
| 690   | 695 | 700 |
| Ser Thr Gln Thr Val Glu Thr Arg Thr Val Ala Val Gly Glu Gly Arg |     |     |
| 705   | 710 | 715 |
| Val Lys Asp Ile Asn Ser Ser Thr Lys Thr Arg Ser Ile Gly Val Gly |     |     |
| 725   | 730 | 735 |
| Thr Leu Leu Ser Gly His Ser Gly Phe Asp Arg Pro Ser Ala Val Lys |     |     |
| 740   | 745 | 750 |
| Thr Lys Glu Ser Gly Val Gly Gln Ile Asn Ile Asn Asp Asn Tyr Leu |     |     |
| 755   | 760 | 765 |
| Val Gly Leu Lys Met Arg Thr Ile Ala Cys Gly Pro Pro Gln Leu Thr |     |     |
| 770   | 775 | 780 |
| Val Gly Leu Thr Ala Ser Arg Arg Ser Val Gly Val Gly Asp Asp Pro |     |     |

|   |      |      |      |      |  |      |
|---|------|------|------|------|--|------|
| 785   |      | 790  |      | 795  |  | 800  |
| Val Gly Glu Ser Leu Glu Asn Pro Gln Pro Gln Ala Pro Leu Gly Met |      |      |      |      |  |      |
|   | 805  |      | 810  |      |  | 815  |
| Met Thr Gly Leu Asp His Tyr Ile Glu Arg Ile Gln Lys Leu Leu Ala |      |      |      |      |  |      |
|   | 820  |      | 825  |      |  | 830  |
| Glu Gln Gln Thr Leu Leu Ala Glu Asn Tyr Ser Glu Leu Ala Glu Ala |      |      |      |      |  |      |
|   | 835  |      | 840  |      |  | 845  |
| Phe Gly Glu Pro His Ser Gln Met Gly Ser Leu Asn Ser Gln Leu Ile |      |      |      |      |  |      |
|   | 850  |      | 855  |      |  | 860  |
| Ser Thr Leu Ser Ser Ile Asn Ser Val Met Lys Ser Ala Ser Thr Glu |      |      |      |      |  |      |
| 865   |      | 870  |      | 875  |  | 880  |
| Glu Leu Arg Asn Pro Asp Phe Gln Lys Thr Ser Leu Gly Lys Ile Thr |      |      |      |      |  |      |
|   | 885  |      | 890  |      |  | 895  |
| Gly Ser Tyr Leu Gly Tyr Thr Cys Lys Cys Gly Gly Leu Gln Ser Gly |      |      |      |      |  |      |
|   | 900  |      | 905  |      |  | 910  |
| Ser Pro Leu Ser Ser Gln Thr Ser Gln Pro Glu Gln Glu Val Gly Thr |      |      |      |      |  |      |
|   | 915  |      | 920  |      |  | 925  |
| Ser Glu Gly Lys Pro Ile Ser Ser Leu Asp Ala Phe Pro Thr Gln Glu |      |      |      |      |  |      |
|   | 930  |      | 935  |      |  | 940  |
| Gly Thr Leu Ser Pro Val Asn Leu Thr Asp Asp Gln Ile Ala Ala Gly |      |      |      |      |  |      |
| 945   |      | 950  |      | 955  |  | 960  |
| Leu Tyr Ala Cys Thr Asn Asn Glu Ser Thr Leu Lys Ser Ile Met Lys |      |      |      |      |  |      |
|   | 965  |      | 970  |      |  | 975  |
| Lys Lys Asp Gly Asn Lys Asp Ser Asn Gly Ala Lys Lys Asn Leu Gln |      |      |      |      |  |      |
|   | 980  |      | 985  |      |  | 990  |
| Phe Val Gly Ile Asn Gly Gly Tyr Glu Thr Thr Ser Ser Asp Asp Ser |      |      |      |      |  |      |
|   | 995  |      | 1000 |      |  | 1005 |
| Ser Ser Asp Glu Ser Ser Ser Glu Ser Asp Asp Glu Cys Asp Val     |      |      |      |      |  |      |
|   | 1010 |      | 1015 |      |  | 1020 |
| Ile Glu Tyr Pro Leu Glu Glu Glu Glu Glu Glu Glu Asp Glu Asp Thr |      |      |      |      |  |      |
| 1025  |      | 1030 |      | 1035 |  | 1040 |
| Arg Gly Met Ala Glu Gly His His Ala Val Asn Ile Glu Gly Leu Lys |      |      |      |      |  |      |
|   | 1045 |      | 1050 |      |  | 1055 |
| Ser Ala Arg Val Glu Asp Glu Met Gln Val Gln Glu Cys Glu Pro Glu |      |      |      |      |  |      |
|   | 1060 |      | 1065 |      |  | 1070 |
| Lys Val Glu Ile Arg Glu Arg Tyr Glu Leu Ser Glu Lys Met Leu Ser |      |      |      |      |  |      |
|   | 1075 |      | 1080 |      |  | 1085 |
| Ala Cys Asn Leu Leu Lys Asn Thr Ile Asn Asp Pro Lys Ala Leu Thr |      |      |      |      |  |      |
|   | 1090 |      | 1095 |      |  | 1100 |
| Ser Lys Asp Met Arg Phe Cys Leu Asn Thr Leu Gln His Glu Trp Phe |      |      |      |      |  |      |
| 1105  |      | 1110 |      | 1115 |  | 1120 |
| Arg Val Ser Ser Gln Lys Ser Ala Ile Pro Ala Met Val Gly Asp Tyr |      |      |      |      |  |      |
|   | 1125 |      | 1130 |      |  | 1135 |
| Ile Ala Ala Phe Glu Ala Ile Ser Pro Asp Val Leu Arg Tyr Val Ile |      |      |      |      |  |      |
|   | 1140 |      | 1145 |      |  | 1150 |
| Asn Leu Ala Asp Gly Asn Gly Asn Thr Ala Leu His Tyr Ser Val Ser |      |      |      |      |  |      |
|   | 1155 |      | 1160 |      |  | 1165 |
| His Ser Asn Phe Glu Ile Val Lys Leu Leu Leu Asp Ala Asp Val Cys |      |      |      |      |  |      |
|   | 1170 |      | 1175 |      |  | 1180 |
| Asn Val Asp His Gln Asn Lys Ala Gly Tyr Thr Pro Ile Met Leu Ala |      |      |      |      |  |      |
| 1185  |      | 1190 |      | 1195 |  | 1200 |
| Ala Leu Ala Ala Val Glu Ala Glu Lys Asp Met Arg Ile Val Glu Glu |      |      |      |      |  |      |
|   | 1205 |      | 1210 |      |  | 1215 |
| Leu Phe Gly Cys Gly Asp Val Asn Ala Lys Ala Ser Gln Ala Gly Gln |      |      |      |      |  |      |
|   | 1220 |      | 1225 |      |  | 1230 |
| Thr Ala Leu Met Leu Ala Val Ser His Gly Arg Ile Asp Met Val Lys |      |      |      |      |  |      |
|   | 1235 |      | 1240 |      |  | 1245 |
| Gly Leu Leu Ala Cys Gly Ala Asp Val Asn Ile Gln Asp Asp Glu Gly |      |      |      |      |  |      |
|   | 1250 |      | 1255 |      |  | 1260 |
| Ser Thr Ala Leu Met Cys Ala Ser Glu His Gly His Val Glu Ile Val |      |      |      |      |  |      |
| 1265  |      | 1270 |      | 1275 |  | 1280 |
| Lys Leu Leu Leu Ala Gln Pro Gly Cys Asn Gly His Leu Glu Asp Asn |      |      |      |      |  |      |
|   | 1285 |      | 1290 |      |  | 1295 |
| Asp Gly Ser Thr Ala Leu Ser Ile Ala Leu Glu Ala Gly His Lys Asp |      |      |      |      |  |      |

|      |      |     |      |     |      |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1300 |     | 1305 |     | 1310 |     |     |     |     |     |     |     |     |     |     |
| Ile  | Ala  | Val | Leu  | Leu | Tyr  | Ala | His | Val | Asn | Phe | Ala | Lys | Ala | Gln | Ser |
|      | 1315 |     | 1320 |     | 1325 |     |     |     |     |     |     |     |     |     |     |
| Pro  | Gly  | Thr | Pro  | Arg | Leu  | Gly | Arg | Lys | Thr | Ser | Pro | Gly | Pro | Thr | His |
|      | 1330 |     | 1335 |     | 1340 |     |     |     |     |     |     |     |     |     |     |
| Arg  | Gly  | Ser | Phe  | Asp |      |     |     |     |     |     |     |     |     |     |     |
| 1345 |      |     | 1349 |     |      |     |     |     |     |     |     |     |     |     |     |

<210> 2990  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 2990

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Arg | Leu | Arg | Pro | Gly | Gln | Arg | Ala | Ile | Arg | Gly | Pro | Val | Pro | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Gly | Ala | Cys | Ala | Ser | Leu | Pro | Pro | Arg | Ala | Gly | Pro | Ala | Gln | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | His | Ala | Ala | Leu | Gly | Gly | Ala | Glu | Pro | Gly | Ser | His | Leu | His | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Val | Arg | Leu | Gln | Arg | Arg | Glu | Glu | Pro | Gly | Gly | Gln | Gln | Arg | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Pro | Gln | Arg | Gly | Gly | Ser | Ala | Gln | Thr | Gly | His | Gln | His | Pro | Gly |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Tyr | Glu | Cys | Gln | Cys | Pro | Gly | Pro | Gln | Pro | Gly | Gly | Thr | Thr | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Leu | Leu | Ser | Leu | Ile | Leu | Glu | Glu | Thr | Arg | Gly | Pro | Pro | Ala | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Asn | Pro | Asp | Lys | Asp | His | Ser | Thr | Gln | Pro | Gly | Thr | Met | Gly | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Lys | Ile | Gln | Ile | Ser | Arg | Ile | Leu | Asp | Gln | Arg | Asn | Arg | Gln | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Phe | Thr | Lys | Arg | Lys | Phe | Gly | Leu | Met | Lys | Lys | Ala | Tyr | Glu | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Val | Leu | Cys | Asp | Cys | Glu | Ile | Ala | Leu | Ile | Ile | Phe | Asn | Ser | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Arg | Leu | Phe | Gln | Tyr | Ala | Ser | Thr | Asp | Met | Asp | Arg | Val | Leu | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Tyr | Thr | Glu | Tyr | Ser | Glu | Pro | His | Glu | Ser | Arg | Thr | Asn | Thr | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ile | Leu | Glu | Thr | Leu | Lys | Arg | Arg | Gly | Ile | Gly | Leu | Asp | Gly | Pro | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Glu | Pro | Asp | Glu | Gly | Pro | Glu | Glu | Pro | Gly | Glu | Lys | Phe | Arg | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Leu | Ala | Gly | Glu | Gly | Gly | Asp | Pro | Ala | Leu | Pro | Arg | Pro | Arg | Leu | Tyr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Ala | Ala | Pro | Ala | Met | Pro | Ser | Pro | Asp | Val | Val | Tyr | Gly | Ala | Leu |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Pro | Pro | Gly | Cys | Asp | Pro | Ser | Gly | Leu | Gly | Glu | Ala | Leu | Pro | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Ser | Arg | Pro | Ser | Pro | Phe | Arg | Pro | Ala | Ala | Pro | Lys | Ala | Gly | Pro |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Gly | Leu | Gly | His | Pro | Leu | Phe | Ser | Pro | Ser | His | Leu | Thr | Ser | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Thr | Pro | Pro | Pro | Leu | Tyr | Leu | Pro | Thr | Glu | Gly | Arg | Arg | Ser | Asp | Leu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Gly | Gly | Leu | Ala | Gly | Pro | Arg | Gly | Gly | Leu | Asn | Thr | Ser | Arg | Ser |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Leu | Tyr | Ser | Gly | Leu | Gln | Asn | Pro | Cys | Ser | Thr | Ala | Thr | Pro | Gly | Pro |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Pro | Leu | Gly | Ser | Phe | Pro | Phe | Leu | Pro | Gly | Gly | Pro | Pro | Val | Gly | Ala |

|   |     |     |
|---|-----|-----|
| 370   | 375 | 380 |
| Glu Ala Trp Ala Arg Arg Val Pro Gln Pro Ala Ala Pro Pro Arg Arg |     |     |
| 385   | 390 | 395 |
| Pro Pro Gln Ser Ser Ile Lys Ser Glu Arg Leu Phe Leu Arg Pro Pro |     | 400 |
|   | 405 | 410 |
| Gly Ala Pro Ala Thr Phe Leu Arg Pro Ser Pro Ile Pro Cys Ser Ser |     | 415 |
|   | 420 | 425 |
| Pro Gly Pro Trp Gln Ser Leu Cys Gly Leu Gly Pro Pro Cys Ala Gly |     | 430 |
|   | 435 | 440 |
| Cys Pro Trp Pro Thr Ala Gly Pro Gly Arg Arg Ser Pro Gly Gly Thr |     | 445 |
|   | 450 | 455 |
| Ser Pro Glu Arg Ser Pro Gly Thr Ala Arg Ala Arg Gly Asp Pro Thr |     | 460 |
|   | 465 | 470 |
| Ser Leu Gln Ala Phe Ser Glu Lys Thr His Thr Val Thr Ala Pro Leu |     | 475 |
|   | 485 | 490 |
| Arg Gly Gly Gly Leu Glu Val Gly Gly Trp Thr Gln Ser Ser Ala Gly |     | 495 |
|   | 500 | 505 |
| Gly Leu Leu Ser Phe Phe Leu Phe Val Cys Ile Ser Thr Asn Lys Asn |     | 510 |
|   | 515 | 520 |
| Ala Arg Gly Val Arg Gly Pro Glu Lys Lys                         |     | 525 |
|   | 530 | 535 |
|   |     | 538 |

&lt;210&gt; 2991

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2991

|   |     |
|---|-----|
| Ile Pro Gln Pro Leu His Cys Ala Ser Pro Lys Glu Glu Met Ser Leu |     |
| 1   | 5   |
| Arg Cys Gly Asp Ala Ala Arg Thr Leu Gly Pro Arg Val Phe Gly Arg | 10  |
|   | 20  |
| Tyr Phe Cys Ser Pro Val Arg Pro Leu Ser Ser Leu Pro Asp Lys Lys | 25  |
|   | 30  |
| Lys Glu Leu Leu Gln Asn Gly Pro Asp Leu Gln Asp Phe Val Ser Gly | 35  |
|   | 40  |
| Asp Leu Ala Asp Arg Ser Thr Trp Asp Glu Tyr Lys Gly Asn Leu Lys | 45  |
|   | 50  |
| Arg Gln Lys Gly Glu Arg Leu Arg Leu Pro Pro Trp Leu Lys Thr Glu | 55  |
|   | 60  |
| Ile Pro Met Gly Lys Asn Tyr Asn Lys Leu Lys Asn Thr Leu Arg Asn | 65  |
|   | 70  |
| Leu Asn Leu His Thr Val Cys Glu Glu Ala Arg Cys Pro Asn Ile Gly | 75  |
|   | 80  |
| Glu Cys Trp Gly Gly Gly Glu Tyr Ala Thr Ala Thr Ala Thr Ile Met | 85  |
|   | 90  |
| Leu Met Gly Asp Thr Cys Thr Arg Gly Cys Arg Phe Cys Ser Val Lys | 95  |
|   | 100 |
| Thr Ala Arg Asn Pro Pro Pro Leu Asp Ala Ser Glu Pro Tyr Asn Thr | 105 |
|   | 110 |
| Ala Lys Ala Ile Ala Glu Trp Gly Leu Asp Tyr Val Val Leu Thr Ser | 115 |
|   | 120 |
| Val Asp Arg Asp Asp Met Pro Asp Gly Gly Ala Glu His Ile Ala Lys | 125 |
|   | 130 |
| Thr Val Ser Tyr Leu Lys Glu Arg Asn Pro Lys Ile Leu Val Glu Cys | 135 |
|   | 140 |
| Leu Thr Pro Asp Phe Arg Gly Asp Leu Lys Ala Ile Glu Lys Val Ala | 145 |
|   | 150 |
| Leu Ser Gly Leu Asp Val Tyr Ala His Asn Val Glu Thr Val Pro Glu | 155 |
|   | 160 |
| Leu Gln Ser Lys Val Arg Asp Pro Arg Ala Asn Phe Asp Gln Ser Leu | 165 |
|   | 170 |
|   | 175 |
|   | 180 |
|   | 185 |
|   | 190 |
|   | 195 |
|   | 200 |
|   | 205 |
|   | 210 |
|   | 215 |
|   | 220 |
|   | 225 |
|   | 230 |
|   | 235 |
|   | 240 |
|   | 245 |
|   | 250 |
|   | 255 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Val | Leu | Lys | His | Ala | Lys | Lys | Val | Gln | Pro | Asp | Val | Ile | Ser | Lys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Ser | Ile | Met | Leu | Gly | Leu | Gly | Glu | Asn | Asp | Glu | Gln | Val | Tyr | Ala |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Met | Lys | Ala | Leu | Arg | Glu | Ala | Asp | Val | Asp | Cys | Leu | Thr | Leu | Gly |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Tyr | Met | Gln | Pro | Thr | Arg | Arg | His | Leu | Lys | Val | Glu | Glu | Tyr | Ile |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Thr | Pro | Glu | Lys | Phe | Lys | Tyr | Trp | Glu | Lys | Val | Gly | Asn | Glu | Leu | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Phe | His | Tyr | Thr | Ala | Ser | Gly | Pro | Leu | Val | Arg | Ser | Ser | Tyr | Lys | Ala |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gly | Glu | Phe | Phe | Leu | Lys | Asn | Leu | Val | Ala | Lys | Arg | Lys | Thr | Lys | Asp |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 385 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 2992  
 <211> 545  
 <212> PRT  
 <213> Homo sapiens

<400> 2992

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Val | Pro | Gly | Val | Pro | Thr | Ser | Pro | Pro | Ser | Cys | Cys | Pro | Gln | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Gln | Gly | Pro | Trp | Val | Leu | Leu | Leu | Leu | Gly | Leu | Arg | Leu | Gln | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Leu | Gly | Val | Ile | Pro | Ala | Glu | Glu | Glu | Asn | Pro | Ala | Phe | Trp | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Gln | Ala | Ala | Glu | Ala | Leu | Asp | Ala | Ala | Lys | Lys | Leu | Gln | Pro | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Lys | Val | Ala | Lys | Asn | Leu | Ile | Leu | Phe | Leu | Gly | Asp | Gly | Leu | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Pro | Thr | Val | Thr | Ala | Thr | Arg | Ile | Leu | Lys | Gly | Gln | Lys | Asn | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Leu | Gly | Pro | Glu | Thr | Pro | Leu | Ala | Met | Asp | Arg | Phe | Pro | Tyr | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Leu | Ser | Lys | Thr | Tyr | Asn | Val | Asp | Arg | Gln | Val | Pro | Asp | Ser | Ala |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ala | Thr | Ala | Thr | Ala | Tyr | Leu | Cys | Gly | Val | Lys | Ala | Asn | Phe | Gln | Thr |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Gly | Leu | Ser | Ala | Ala | Arg | Phe | Asn | Gln | Cys | Asn | Thr | Thr | Arg |     |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gly | Asn | Glu | Val | Ile | Ser | Val | Met | Asn | Arg | Ala | Lys | Gln | Ala | Gly | Lys |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Val | Gly | Val | Val | Thr | Thr | Thr | Arg | Val | Gln | His | Ala | Ser | Pro | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Thr | Tyr | Ala | His | Thr | Val | Asn | Arg | Asn | Trp | Tyr | Ser | Asp | Ala | Asp |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Met | Pro | Ala | Ser | Ala | Arg | Gln | Glu | Gly | Cys | Gln | Asp | Ile | Ala | Thr | Gln |
|     |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Ile | Ser | Asn | Met | Asp | Ile | Asp | Val | Ile | Leu | Gly | Gly | Gly | Arg | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Tyr | Met | Phe | Pro | Met | Gly | Thr | Pro | Asp | Pro | Glu | Tyr | Pro | Ala | Asp | Ala |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Gln | Asn | Gly | Ile | Arg | Leu | Asp | Gly | Lys | Asn | Leu | Val | Gln | Glu | Trp |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Ala | Lys | His | Gln | Gly | Ala | Trp | Tyr | Val | Trp | Asn | Arg | Thr | Glu | Leu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Met | Gln | Ala | Ser | Leu | Asp | Gln | Ser | Val | Thr | His | Leu | Met | Gly | Leu | Phe |

|   |     |     |
|---|-----|-----|
| 290   | 295 | 300 |
| Glu Pro Gly Asp Thr Lys Tyr Glu Ile His Arg Asp Pro Thr Leu Asp |     |     |
| 305   | 310 | 315 |
| Pro Ser Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu Leu Ser Arg |     |     |
|   | 325 | 330 |
| Asn Pro Arg Gly Phe Tyr Leu Phe Val Glu Gly Gly Arg Ile Asp His |     |     |
|   | 340 | 345 |
| Gly His His Glu Gly Val Ala Tyr Gln Ala Leu Thr Glu Ala Val Met |     |     |
|   | 355 | 360 |
| Phe Asp Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser Glu Glu Asp |     |     |
|   | 370 | 375 |
| Thr Leu Thr Leu Val Thr Ala Asp His Ser His Val Phe Ser Phe Gly |     |     |
| 385   | 390 | 395 |
| Gly Tyr Thr Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala Pro Ser Lys |     |     |
|   | 405 | 410 |
| Ala Gln Asp Ser Lys Ala Tyr Thr Ser Ile Leu Tyr Gly Asn Gly Pro |     |     |
|   | 420 | 425 |
| Gly Tyr Val Phe Asn Ser Gly Val Arg Pro Asp Val Asn Glu Ser Glu |     |     |
|   | 435 | 440 |
| Ser Gly Ser Pro Asp Tyr His Gln Gln Ala Gly Val Pro Leu Ser Ser |     |     |
|   | 450 | 455 |
| Glu Thr His Gly Gly Glu Asp Val Ala Val Phe Ala Arg Gly Pro Gln |     |     |
| 465   | 470 | 475 |
| Ala His Leu Val His Gly Val Gln Glu Gln Ser Phe Val Ala His Val |     |     |
|   | 485 | 490 |
| Met Ala Phe Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala |     |     |
|   | 500 | 505 |
| Pro Pro Ala Cys Thr Thr Asp Ala Ala His Pro Val Ala Ala Ser Leu |     |     |
|   | 515 | 520 |
| Pro Leu Leu Ala Gly Thr Leu Leu Leu Leu Gly Ala Ser Ala Ala Pro |     |     |
| 530   | 535 | 540 |
|   |     | 544 |

&lt;210&gt; 2993

&lt;211&gt; 229

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2993

|   |     |
|---|-----|
| Asp Ala Trp Ala Arg Leu Leu Lys Met Asn Arg Leu Phe Gly Lys Ala |     |
| 1   | 5   |
| Lys Pro Lys Ala Pro Pro Pro Ser Leu Thr Asp Cys Ile Gly Thr Val |     |
|   | 20  |
| Asp Ser Arg Ala Glu Ser Ile Asp Lys Lys Ile Ser Arg Leu Asp Ala |     |
|   | 35  |
| Glu Leu Val Lys Tyr Lys Asp Gln Ile Lys Lys Met Arg Glu Gly Pro |     |
|   | 50  |
| Ala Lys Asn Met Val Lys Gln Lys Ala Leu Arg Val Leu Lys Gln Lys |     |
| 65  | 70  |
| Arg Met Tyr Glu Gln Gln Arg Asp Asn Leu Ala Asn Ser His Ser Thr |     |
|   | 85  |
| Trp Thr Ser His Tyr Thr Ile Gln Ser Leu Lys Asp Thr Lys Thr Thr |     |
|   | 100 |
| Val Asp Ala Met Lys Leu Gly Val Lys Glu Met Lys Lys Ala Tyr Lys |     |
|   | 115 |
| Gln Val Lys Ile Asp Gln Ile Glu Asp Leu Gln Asp Gln Leu Glu Asp |     |
|   | 130 |
| Met Met Glu Asp Ala Asn Glu Ile Gln Glu Ala Leu Ser Arg Ser Tyr |     |
| 145   | 150 |
| Gly Thr Pro Glu Leu Asp Glu Asp Asp Leu Glu Ala Glu Leu Asp Ala |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Leu | Gly | Asp | Glu | Leu | Leu | Ala | Asp | Glu | Asp | Ser | Ser | Tyr | Leu | Asp | Glu |  |  |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |  |  |
| Ala | Ala | Ser | Ala | Pro | Ala | Ile | Pro | Glu | Gly | Val | Pro | Thr | Asp | Thr | Lys |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |  |  |
| Asn | Lys | Asp | Gly | Val | Leu | Val | Asp | Glu | Phe | Gly | Leu | Pro | Gln | Ile | Pro |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Ala | Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 225 | 226 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 2994

&lt;211&gt; 517

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2994

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Arg | Cys | Glu | Leu | Thr | Pro | Phe | Ile | Ile | Lys | Thr | Leu | Ile | Leu | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Lys | Ser | Trp | Gly | Ala | Phe | Pro | Glu | Asp | Val | Val | Met | Gln | His | Val | Ser |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ser | Ser | Gln | Ser | Ser | Gln | Arg | His | Val | Gln | Trp | Pro | Gly | Ala | Cys | Pro |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Ala | Gly | Glu | Glu | Gln | Pro | Ala | Cys | Ser | Gln | Pro | Ser | Leu | Pro | Leu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Thr | Leu | Pro | Ser | Pro | Ser | His | Gln | Leu | Gln | Gln | Leu | Met | Val | Arg | Gly |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Gly | Pro | Ala | Gly | Gly | Gln | Asn | Met | Asn | Val | Asp | Leu | Gln | Gly | Val | Gly |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Pro | Gly | Leu | Gln | Gly | Ser | Pro | Gln | Val | Thr | Leu | Ala | Pro | Leu | Pro | Leu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Pro | Ser | Pro | Thr | Ser | Pro | Gly | Phe | Gln | Phe | Ser | Ala | Gln | Pro | Arg | Arg |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Phe | Glu | His | Gly | Ser | Pro | Ser | Tyr | Ile | Gln | Val | Thr | Ser | Pro | Leu | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gln | Gln | Val | Gln | Thr | Gln | Ser | Pro | Thr | Gln | Pro | Ser | Pro | Gly | Pro | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |  |
| Gln | Ala | Leu | Gln | Asn | Val | Arg | Ala | Gly | Ala | Pro | Gly | Pro | Gly | Leu | Gly |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Leu | Cys | Ser | Ser | Ser | Pro | Thr | Gly | Asp | Phe | Val | Asp | Ala | Ser | Val | Leu |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Val | Arg | Gln | Ile | Ser | Leu | Ser | Pro | Ser | Ser | Gly | Gly | His | Phe | Val | Phe |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Gln | Asp | Gly | Ser | Gly | Leu | Thr | Gln | Ile | Ala | Gln | Gly | Ala | Gln | Val | Gln |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu | Gln | His | Pro | Gly | Thr | Pro | Ile | Thr | Val | Arg | Glu | Arg | Arg | Pro | Ser |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Gln | Pro | His | Thr | Gln | Ser | Gly | Gly | Thr | Ile | His | His | Leu | Gly | Pro | Gln |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Ser | Pro | Ala | Ala | Ala | Gly | Gly | Ala | Gly | Leu | Gln | Pro | Leu | Ala | Ser | Pro |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ser | His | Ile | Thr | Thr | Ala | Asn | Leu | Pro | Pro | Gln | Ile | Ser | Ser | Ile | Ile |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Gln | Gly | Gln | Leu | Val | Gln | Gln | Gln | Gln | Val | Leu | Gln | Gly | Pro | Pro | Leu |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Pro | Arg | Pro | Leu | Gly | Phe | Glu | Arg | Thr | Pro | Gly | Val | Leu | Leu | Pro | Gly |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |  |
| Ala | Gly | Gly | Ala | Ala | Gly | Phe | Gly | Met | Thr | Ser | Pro | Pro | Pro | Pro | Thr |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Ser | Pro | Ser | Arg | Thr | Ala | Val | Pro | Pro | Gly | Leu | Ser | Ser | Leu | Pro | Leu |  |  |
|     |     |     | 340 |     |     |     |     |     | 345 |     |     |     | 350 |     |     |  |  |
| Thr | Ser | Val | Gly | Asn | Thr | Gly | Met | Lys | Lys | Val | Pro | Lys | Lys | Leu | Glu |  |  |

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<210> 2995
<211> 308
<212> PRT
<213> Homo sapiens
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4670

```
<210> 2996
<211> 573
<212> PRT
<213> Homo sapiens
```

4671



|   |     |     |
|---|-----|-----|
| 370   | 375 | 380 |
| Gly Lys Ser Phe Pro Ser Lys Ser Gln Leu Gln Met His Lys Arg Ile |     |     |
| 385   | 390 | 395 |
| His Thr Gly Glu Lys Pro Tyr Ile Cys Thr Glu Cys Gly Lys Ala Phe |     | 400 |
|   | 405 | 410 |
| Thr Asn Arg Ser Asn Leu Asn Thr His Gln Lys Ser His Thr Gly Glu |     | 415 |
|   | 420 | 425 |
| Lys Ser Tyr Ile Cys Ala Glu Cys Gly Lys Ala Phe Thr Asp Arg Ser |     | 430 |
|   | 435 | 440 |
| Asn Phe Asn Lys His Gln Thr Ile His Thr Gly Glu Lys Pro Tyr Val |     | 445 |
|   | 450 | 455 |
| Cys Ala Asp Cys Gly Arg Ala Phe Ile Gln Lys Ser Glu Leu Ile Thr |     | 460 |
| 465   | 470 | 475 |
| His Gln Arg Ile His Thr Thr Glu Lys Pro Tyr Lys Cys Pro Asp Cys |     | 480 |
|   | 485 | 490 |
| Glu Lys Ser Phe Ser Lys Lys Pro His Leu Lys Val His Gln Arg Ile |     | 495 |
|   | 500 | 505 |
| His Thr Gly Glu Lys Pro Tyr Ile Cys Ala Glu Cys Gly Lys Ala Phe |     | 510 |
|   | 515 | 520 |
| Thr Asp Arg Ser Asn Phe Asn Lys His Gln Thr Ile His Thr Gly Asp |     | 525 |
|   | 530 | 535 |
| Lys Pro Tyr Lys Cys Ser Asp Cys Gly Lys Gly Phe Thr Gln Lys Ser |     | 540 |
| 545   | 550 | 555 |
| Val Leu Ser Met His Arg Asn Ile His Thr                         |     | 560 |
|   | 565 | 570 |

&lt;210&gt; 2997

&lt;211&gt; 591

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2997

|   |     |
|---|-----|
| Ala Ala Ser Thr Arg Thr Met Gly Ser Arg His Phe Glu Gly Ile Tyr |     |
| 1   | 5   |
| Asp His Val Gly His Phe Gly Arg Phe Gln Arg Val Leu Tyr Phe Ile |     |
|   | 20  |
| Cys Ala Phe Gln Asn Ile Ser Cys Gly Ile His Tyr Leu Ala Ser Val |     |
|   | 35  |
| Phe Met Gly Val Thr Pro His His Val Cys Arg Pro Pro Gly Asn Val |     |
|   | 50  |
| Ser Gln Val Val Phe His Asn His Ser Asn Trp Ser Leu Glu Asp Thr |     |
| 65  | 70  |
| Gly Ala Leu Leu Ser Ser Gly Gln Lys Asp Tyr Val Thr Val Gln Leu |     |
|   | 85  |
| Gln Asn Gly Glu Ile Trp Glu Leu Ser Arg Cys Ser Arg Asn Lys Arg |     |
|   | 100 |
| Glu Asn Thr Ser Ser Leu Gly Tyr Glu Tyr Thr Gly Ser Lys Lys Glu |     |
|   | 115 |
| Phe Pro Cys Val Asp Gly Tyr Ile Tyr Asp Gln Asn Thr Trp Lys Ser |     |
|   | 130 |
| Thr Ala Val Thr Gln Trp Asn Leu Val Cys Asp Arg Lys Trp Leu Ala |     |
| 145   | 150 |
| Met Leu Ile Gln Pro Leu Phe Met Phe Gly Gly Pro Thr Gly Ile Gly |     |
|   | 165 |
| Val Thr Phe Gly Tyr Phe Ser Asp Arg Leu Gly Arg Arg Val Val Leu |     |
|   | 180 |
| Trp Ala Thr Ser Ser Ser Met Phe Leu Phe Gly Ile Ala Ala Ala Phe |     |
|   | 195 |
| Ala Val Asp Tyr Tyr Thr Phe Met Ala Ala Arg Phe Phe Leu Ala Met |     |
|   | 210 |
| Val Ala Ser Gly Tyr Leu Val Val Gly Phe Val Tyr Val Met Glu Phe |     |
|   | 215 |
|   | 220 |

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 225   |     | 230 |     | 235 |     | 240 |
| Ile Gly Met Lys Ser Arg Thr Trp Ala Ser Val His Leu His Ser Phe |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Phe Ala Val Gly Thr Leu Leu Val Ala Leu Thr Gly Tyr Leu Val Arg |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Thr Trp Trp Leu Tyr Gln Met Ile Leu Ser Thr Val Thr Val Pro Phe |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Ile Leu Cys Cys Trp Val Leu Pro Glu Thr Pro Phe Trp Leu Leu Ser |     |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |     |
| Glu Gly Arg Tyr Glu Glu Ala Gln Lys Ile Val Asp Ile Met Ala Lys |     |     |     |     |     |     |
|   | 305 |     | 310 |     | 315 |     |
| Trp Asn Arg Ala Ser Ser Cys Lys Leu Ser Glu Leu Leu Ser Leu Asp |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Leu Gln Gly Pro Val Ser Asn Ser Pro Thr Glu Val Gln Lys His Asn |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Leu Ser Tyr Leu Phe Tyr Asn Trp Ser Ile Thr Lys Arg Thr Leu Thr |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Val Trp Leu Ile Trp Phe Thr Gly Ser Leu Gly Phe Tyr Ser Phe Ser |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Leu Asn Ser Val Asn Leu Gly Gly Asn Glu Tyr Leu Asn Leu Phe Leu |     |     |     |     |     |     |
|   | 385 |     | 390 |     | 395 |     |
| Leu Gly Val Val Glu Ile Pro Ala Tyr Thr Phe Val Cys Ile Ala Met |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Asp Lys Val Gly Arg Arg Thr Val Leu Ala Tyr Ser Leu Phe Cys Ser |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Ala Leu Ala Cys Gly Val Val Met Val Ile Pro Gln Lys His Tyr Ile |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| Leu Gly Val Val Thr Ala Met Val Gly Lys Ile Leu Pro Ile Gly Ala |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Ala Phe Gly Leu Ile Tyr Leu Tyr Thr Ala Glu Leu Tyr Pro Thr Ile |     |     |     |     |     |     |
|   | 465 |     | 470 |     | 475 |     |
| Val Arg Ser Leu Ala Val Gly Ser Gly Ser Met Val Cys Arg Leu Ala |     |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |     |
| Ser Ile Leu Ala Pro Phe Ser Val Asp Leu Ser Ser Ile Trp Ile Phe |     |     |     |     |     |     |
|   | 500 |     | 505 |     | 510 |     |
| Ile Pro Gln Leu Phe Val Gly Thr Met Ala Leu Leu Ser Gly Val Leu |     |     |     |     |     |     |
|   | 515 |     | 520 |     | 525 |     |
| Thr Leu Lys Leu Pro Glu Thr Leu Gly Lys Arg Leu Ala Thr Thr Trp |     |     |     |     |     |     |
|   | 530 |     | 535 |     | 540 |     |
| Glu Glu Ala Ala Lys Leu Glu Ser Glu Asn Glu Ser Lys Ser Ser Lys |     |     |     |     |     |     |
|   | 545 |     | 550 |     | 555 |     |
| Leu Leu Leu Thr Thr Asn Asn Ser Gly Leu Glu Lys Thr Glu Ala Ile |     |     |     |     |     |     |
|   | 565 |     | 570 |     | 575 |     |
| Thr Pro Arg Asp Ser Gly Leu Gly Glu                             |     |     |     |     |     |     |
|   | 580 |     | 585 |     |     |     |

&lt;210&gt; 2998

&lt;211&gt; 480

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2998

|   |    |   |    |    |    |    |  |  |  |  |  |  |  |  |
|---|----|---|----|----|----|----|--|--|--|--|--|--|--|--|
| Gln Arg Pro Ala Ser Gln Leu Leu Ala Pro Phe Ala Ala Glu Ala Leu |    |   |    |    |    |    |  |  |  |  |  |  |  |  |
| 1   |    | 5 |    | 10 |    | 15 |  |  |  |  |  |  |  |  |
| Pro Gly Ala Pro Arg Ala Ala Met Ala Gln His Phe Ser Leu Ala Ala |    |   |    |    |    |    |  |  |  |  |  |  |  |  |
|   | 20 |   | 25 |    | 30 |    |  |  |  |  |  |  |  |  |
| Cys Asp Val Val Gly Phe Asp Leu Asp His Thr Leu Cys Arg Tyr Asn |    |   |    |    |    |    |  |  |  |  |  |  |  |  |
|   | 35 |   | 40 |    | 45 |    |  |  |  |  |  |  |  |  |
| Leu Pro Glu Ser Ala Pro Leu Ile Tyr Asn Ser Phe Ala Gln Phe Leu |    |   |    |    |    |    |  |  |  |  |  |  |  |  |
|   | 50 |   | 55 |    | 60 |    |  |  |  |  |  |  |  |  |
| Val Lys Glu Lys Gly Tyr Asp Lys Glu Leu Leu Asn Val Thr Pro Glu |    |   |    |    |    |    |  |  |  |  |  |  |  |  |

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |
| Asp Trp Asp Phe Cys Cys Lys Gly Leu Ala Leu Asp Leu Glu Asp Gly |     |     |     |     |     |     |
|   | 85  |     | 90  |     | 95  |     |
| Asn Phe Leu Lys Leu Ala Asn Asn Gly Thr Val Leu Arg Ala Ser His |     |     |     |     |     |     |
|   | 100 |     | 105 |     | 110 |     |
| Gly Thr Lys Met Met Thr Pro Glu Val Leu Ala Glu Ala Tyr Gly Lys |     |     |     |     |     |     |
|   | 115 |     | 120 |     | 125 |     |
| Lys Glu Trp Lys His Phe Leu Ser Asp Thr Gly Met Ala Cys Arg Ser |     |     |     |     |     |     |
|   | 130 |     | 135 |     | 140 |     |
| Gly Lys Tyr Tyr Phe Tyr Asp Asn Tyr Phe Asp Leu Pro Gly Ala Leu |     |     |     |     |     |     |
| 145   |     | 150 |     | 155 |     | 160 |
| Leu Cys Ala Arg Val Val Asp Tyr Leu Thr Lys Leu Asn Asn Gly Gln |     |     |     |     |     |     |
|   | 165 |     | 170 |     | 175 |     |
| Lys Thr Phe Asp Phe Trp Lys Asp Ile Val Ala Ala Ile Gln His Asn |     |     |     |     |     |     |
|   | 180 |     | 185 |     | 190 |     |
| Tyr Lys Met Ser Ala Phe Lys Glu Asn Cys Gly Ile Tyr Phe Pro Glu |     |     |     |     |     |     |
|   | 195 |     | 200 |     | 205 |     |
| Ile Lys Arg Asp Pro Gly Arg Tyr Leu His Ser Arg Pro Glu Ser Val |     |     |     |     |     |     |
|   | 210 |     | 215 |     | 220 |     |
| Lys Lys Trp Leu Arg Gln Leu Lys Asn Ala Gly Lys Ile Leu Leu Leu |     |     |     |     |     |     |
| 225   |     | 230 |     | 235 |     | 240 |
| Ile Thr Ser Ser His Ser Asp Tyr Cys Arg Leu Leu Cys Ala Tyr Ile |     |     |     |     |     |     |
|   | 245 |     | 250 |     | 255 |     |
| Leu Gly Asn Asp Phe Thr Asp Leu Phe Asp Ile Val Ile Thr Asn Ala |     |     |     |     |     |     |
|   | 260 |     | 265 |     | 270 |     |
| Leu Lys Pro Gly Phe Phe Ser His Leu Pro Ser Gln Arg Pro Phe Arg |     |     |     |     |     |     |
|   | 275 |     | 280 |     | 285 |     |
| Thr Leu Glu Asn Asp Glu Glu Gln Glu Ala Leu Pro Ser Leu Asp Lys |     |     |     |     |     |     |
|   | 290 |     | 295 |     | 300 |     |
| Pro Gly Trp Tyr Ser Gln Gly Asn Ala Val His Leu Tyr Glu Leu Leu |     |     |     |     |     |     |
| 305   |     | 310 |     | 315 |     | 320 |
| Lys Lys Met Thr Gly Lys Pro Glu Pro Lys Val Val Tyr Phe Gly Asp |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Ser Met His Ser Asp Ile Phe Pro Ala Arg His Tyr Ser Asn Trp Glu |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Thr Val Leu Ile Leu Glu Glu Leu Arg Gly Asp Glu Gly Thr Arg Ser |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Gln Arg Pro Glu Glu Ser Glu Pro Leu Glu Lys Lys Gly Lys Tyr Glu |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Gly Pro Lys Ala Lys Pro Leu Asn Thr Ser Ser Lys Lys Trp Gly Ser |     |     |     |     |     |     |
| 385   |     | 390 |     | 395 |     | 400 |
| Phe Phe Ile Asp Ser Val Leu Gly Leu Glu Asn Thr Glu Asp Ser Leu |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Val Tyr Thr Trp Ser Cys Lys Arg Ile Ser Thr Tyr Ser Thr Ile Ala |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Ile Pro Ser Ile Glu Ala Ile Ala Glu Leu Pro Leu Asp Tyr Lys Phe |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| Thr Arg Phe Ser Ser Ser Asn Ser Lys Thr Ala Gly Tyr Tyr Pro Asn |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Pro Pro Leu Val Leu Ser Ser Asp Glu Thr Leu Ile Ser Lys         |     |     |     |     |     |     |
| 465   |     | 470 |     | 475 |     | 478 |

&lt;210&gt; 2999

&lt;211&gt; 699

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2999

|   |
|---|
| Leu Arg Arg Arg Lys Met Thr Pro Gln Ser Leu Leu Gln Thr Thr Leu |
| 1 5 10 15   |
| Phe Leu Leu Ser Leu Leu Phe Leu Val Gln Gly Ala His Gly Arg Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| His | Arg | Glu | Asp | Phe | Arg | Phe | Cys | Ser | Gln | Arg | Asn | Gln | Thr | His | Arg |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ser | Ser | Leu | His | Tyr | Lys | Pro | Thr | Pro | Asp | Leu | Arg | Ile | Ser | Ile | Glu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asn | Ser | Glu | Glu | Ala | Leu | Thr | Val | His | Ala | Pro | Phe | Pro | Ala | Ala | His |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Pro | Ala | Ser | Arg | Ser | Phe | Pro | Asp | Pro | Arg | Gly | Leu | Tyr | His | Phe | Cys |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Leu | Tyr | Trp | Asn | Arg | His | Ala | Gly | Arg | Leu | His | Leu | Leu | Tyr | Gly | Lys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Arg | Asp | Phe | Leu | Leu | Ser | Asp | Lys | Ala | Ser | Ser | Leu | Leu | Cys | Phe | Gln |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |  |  |
| His | Gln | Glu | Glu | Ser | Leu | Ala | Gln | Gly | Pro | Pro | Leu | Leu | Ala | Thr | Ser |  |  |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Val | Thr | Ser | Trp | Trp | Ser | Pro | Gln | Asn | Ile | Ser | Leu | Pro | Ser | Ala | Ala |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ser | Phe | Thr | Phe | Ser | Phe | His | Ser | Pro | Pro | His | Thr | Gly | Ala | His | Asn |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Ala | Ser | Val | Asp | Met | Cys | Glu | Leu | Lys | Arg | Asp | Leu | Gln | Leu | Leu | Ser |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gln | Phe | Leu | Lys | His | Pro | Gln | Lys | Ala | Ser | Arg | Arg | Pro | Ser | Ala | Ala |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Pro | Ala | Ser | Gln | Gln | Leu | Gln | Ser | Leu | Glu | Ser | Lys | Leu | Thr | Ser | Val |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Arg | Phe | Met | Gly | Asp | Met | Gly | Ser | Phe | Glu | Glu | Asp | Arg | Ile | Asn | Ala |  |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Thr | Val | Trp | Lys | Leu | Gln | Pro | Thr | Ala | Gly | Leu | Gln | Asp | Leu | His | Ile |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| His | Ser | Arg | Gln | Glu | Glu | Glu | Gln | Ser | Glu | Ile | Met | Glu | Tyr | Ser | Val |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Leu | Leu | Pro | Arg | Thr | Leu | Phe | Gln | Arg | Thr | Lys | Gly | Arg | Ser | Gly | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ala | Glu | Lys | Arg | Leu | Leu | Leu | Val | Asp | Phe | Ser | Ser | Gln | Ala | Leu | Phe |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gln | Asp | Lys | Asn | Ser | Ser | Gln | Val | Leu | Gly | Glu | Lys | Val | Leu | Gly | Ile |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |  |
| Val | Val | Gln | Asn | Thr | Lys | Val | Ala | Asn | Leu | Thr | Glu | Pro | Val | Val | Leu |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Thr | Phe | Gln | His | Gln | Leu | Gln | Pro | Lys | Asn | Val | Thr | Leu | Gln | Cys | Val |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Phe | Trp | Val | Glu | Asp | Pro | Thr | Leu | Ser | Ser | Pro | Gly | His | Trp | Ser | Ser |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Ala | Gly | Cys | Glu | Thr | Val | Arg | Arg | Glu | Thr | Gln | Thr | Ser | Cys | Phe | Cys |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Asn | His | Leu | Thr | Tyr | Phe | Ala | Val | Leu | Met | Val | Ser | Ser | Val | Glu | Val |  |  |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |  |  |
| Asp | Ala | Val | His | Lys | His | Tyr | Leu | Ser | Leu | Leu | Ser | Tyr | Val | Gly | Cys |  |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |
| Val | Val | Ser | Ala | Leu | Ala | Cys | Leu | Val | Thr | Ile | Ala | Ala | Tyr | Leu | Cys |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Ser | Arg | Val | Pro | Leu | Pro | Cys | Arg | Arg | Lys | Pro | Arg | Asp | Tyr | Thr | Ile |  |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Lys | Val | His | Met | Asn | Leu | Leu | Leu | Ala | Val | Phe | Leu | Leu | Asp | Thr | Ser |  |  |
|     | 450 |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     |  |  |
| Phe | Leu | Leu | Ser | Glu | Pro | Val | Ala | Leu | Thr | Gly | Ser | Glu | Ala | Gly | Cys |  |  |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     | 480 |     |  |  |
| Arg | Ala | Ser | Ala | Ile | Phe | Leu | His | Phe | Ser | Leu | Leu | Thr | Cys | Leu | Ser |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |  |  |
| Trp | Met | Gly | Leu | Glu | Gly | Tyr | Asn | Leu | Tyr | Arg | Leu | Val | Val | Glu | Val |  |  |
|     | 500 |     |     |     |     |     | 505 |     |     |     |     |     | 510 |     |     |  |  |
| Phe | Gly | Thr | Tyr | Val | Pro | Gly | Tyr | Leu | Leu | Lys | Leu | Ser | Ala | Met | Gly |  |  |
|     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |  |  |
| Trp | Gly | Phe | Pro | Ile | Phe | Leu | Val | Thr | Leu | Val | Ala | Leu | Val | Asp | Val |  |  |

|   |     |     |
|---|-----|-----|
| 530   | 535 | 540 |
| Asp Asn Tyr Gly Pro Ile Ile Leu Ala Val His Arg Thr Pro Glu Gly |     |     |
| 545   | 550 | 555 |
| Val Ile Tyr Pro Ser Met Cys Trp Ile Arg Asp Ser Leu Val Ser Tyr |     | 560 |
|   | 565 | 570 |
| Ile Thr Asn Leu Gly Leu Phe Ser Leu Val Phe Leu Phe Asn Met Ala |     | 575 |
|   | 580 | 585 |
| Met Leu Ala Thr Met Val Val Gln Ile Leu Arg Leu Arg Pro His Thr |     | 590 |
|   | 595 | 600 |
| Gln Lys Trp Ser His Val Leu Thr Leu Leu Cys Leu Ser Leu Val Leu |     | 605 |
|   | 610 | 615 |
| Gly Leu Pro Trp Ala Leu Ile Phe Phe Ser Phe Ala Ser Gly Thr Phe |     | 620 |
| 625   | 630 | 635 |
| Gln Leu Val Val Leu Tyr Leu Phe Ser Ile Ile Thr Ser Phe Gln Gly |     | 640 |
|   | 645 | 650 |
| Phe Leu Ile Phe Ile Trp Tyr Trp Ser Met Arg Leu Gln Ala Arg Gly |     | 655 |
|   | 660 | 665 |
| Gly Pro Ser Pro Leu Lys Ser Asn Ser Asp Ser Ala Arg Leu Pro Ile |     | 670 |
|   | 675 | 680 |
| Ser Ser Gly Ser Thr Ser Ser Ser Arg Ile                         |     | 685 |
|   | 690 | 695 |
|   |     | 698 |

&lt;210&gt; 3000

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3000

|   |     |
|---|-----|
| Ser Arg Gly Gln Leu Asp Ala Gly Gln Ser Ser Glu Gln His Gly Gly |     |
| 1   | 5   |
| Asn Arg Gln Pro Glu Gln Ser Arg Ser Arg Ser Ser Ser Ser Ser Ser |     |
|   | 20  |
| Ser Pro Arg Arg Ser Arg Ser Ala Ala Glu Pro Ala Met Ala Leu Ser |     |
|   | 35  |
| Met Pro Leu Asn Gly Leu Lys Glu Glu Asp Lys Glu Pro Leu Ile Glu |     |
|   | 50  |
| Leu Phe Val Lys Ala Gly Ser Asp Gly Glu Ser Ile Gly Asn Cys Pro |     |
| 65  | 70  |
| Phe Ser Gln Arg Leu Phe Met Ile Leu Trp Leu Lys Gly Val Val Phe |     |
|   | 85  |
| Ser Val Thr Thr Val Asp Leu Lys Arg Lys Pro Ala Asp Leu Gln Asn |     |
|   | 100 |
| Leu Ala Pro Gly Thr His Pro Pro Phe Ile Thr Phe Asn Ser Glu Val |     |
|   | 115 |
| Lys Thr Asp Val Asn Lys Ile Glu Glu Phe Leu Glu Glu Val Leu Cys |     |
|   | 130 |
| Pro Pro Lys Tyr Leu Lys Leu Ser Pro Lys His Pro Glu Ser Asn Thr |     |
| 145   | 150 |
| Ala Gly Met Asp Ile Phe Ala Lys Phe Ser Ala Tyr Ile Lys Asn Ser |     |
|   | 165 |
| Arg Pro Glu Ala Asn Glu Ala Leu Glu Arg Gly Leu Leu Lys Thr Leu |     |
|   | 180 |
| Gln Lys Leu Asp Glu Tyr Leu Asn Ser Pro Leu Pro Asp Glu Ile Asp |     |
|   | 195 |
| Glu Asn Ser Met Glu Asp Ile Lys Phe Ser Thr Arg Lys Phe Leu Asp |     |
|   | 210 |
| Gly Asn Glu Met Thr Leu Ala Asp Cys Asn Leu Leu Pro Lys Leu His |     |
| 225   | 230 |
| Ile Val Lys Val Val Ala Lys Lys Tyr Arg Asn Phe Asp Ile Pro Lys |     |
|   | 245 |
| Glu Met Thr Gly Ile Trp Arg Tyr Leu Thr Asn Ala Tyr Ser Arg Asp |     |
|   | 255 |



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<210> 3001
<211> 181
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(181)
<223> Xaa = any amino acid or nothing
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<210> 3002
<211> 629
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(629)
<223> Xaa = any amino acid or nothing
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4677

|   |     |     |
|---|-----|-----|
| 35  | 40  | 45  |
| Met Arg Leu Lys Met Thr Thr Arg Asn Phe Pro Glu Arg Glu Val Pro |     |     |
| 50  | 55  | 60  |
| Cys Asp Val Glu Val Glu Arg Phe Thr Arg Glu Val Pro Cys Leu Ser |     |     |
| 65  | 70  | 75  |
| Ser Leu Gly Asp Gly Trp Asp Cys Glu Asn Gln Glu Gly His Leu Arg |     |     |
| 85  | 90  | 95  |
| Gln Ser Ala Leu Thr Leu Glu Lys Pro Gly Thr Gln Glu Ala Ile Cys |     |     |
| 100   | 105 | 110 |
| Glu Tyr Pro Gly Phe Gly Glu His Leu Ile Ala Ser Ser Asp Leu Pro |     |     |
| 115   | 120 | 125 |
| Pro Ser Gln Arg Val Leu Ala Thr Asn Gly Phe His Ala Pro Asp Ser |     |     |
| 130   | 135 | 140 |
| Asn Val Ser Gly Leu Asp Cys Asp Pro Ala Leu Pro Ser Tyr Pro Lys |     |     |
| 145   | 150 | 155 |
| Ser Tyr Ala Asp Lys Arg Thr Gly Asp Ser Asp Ala Cys Gly Lys Gly |     |     |
| 165   | 170 | 175 |
| Phe Asn His Ser Met Glu Val Ile His Gly Arg Asn Pro Val Arg Glu |     |     |
| 180   | 185 | 190 |
| Lys Pro Tyr Lys Tyr Pro Glu Ser Val Lys Ser Phe Asn His Phe Thr |     |     |
| 195   | 200 | 205 |
| Ser Leu Gly His Gln Lys Ile Met Lys Arg Gly Lys Lys Ser Tyr Glu |     |     |
| 210   | 215 | 220 |
| Gly Lys Asn Phe Glu Asn Ile Phe Thr Leu Ser Ser Ser Leu Asn Glu |     |     |
| 225   | 230 | 235 |
| Asn Gln Arg Asn Leu Pro Gly Glu Lys Gln Tyr Arg Cys Thr Glu Cys |     |     |
| 245   | 250 | 255 |
| Gly Lys Cys Phe Lys Arg Asn Ser Ser Leu Val Leu His His Arg Thr |     |     |
| 260   | 265 | 270 |
| His Thr Gly Glu Lys Pro Tyr Thr Cys Asn Glu Cys Gly Lys Ser Phe |     |     |
| 275   | 280 | 285 |
| Ser Lys Asn Tyr Asn Leu Ile Val His Gln Arg Ile His Thr Gly Glu |     |     |
| 290   | 295 | 300 |
| Lys Pro Tyr Glu Cys Ser Lys Cys Gly Lys Ala Phe Ser Asp Gly Ser |     |     |
| 305   | 310 | 315 |
| Ala Leu Thr Gln His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Glu |     |     |
| 325   | 330 | 335 |
| Cys Leu Glu Cys Gly Lys Thr Phe Asn Arg Asn Ser Ser Leu Ile Leu |     |     |
| 340   | 345 | 350 |
| His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Asn Glu Cys |     |     |
| 355   | 360 | 365 |
| Gly Lys Pro Phe Thr Asp Ile Ser His Leu Thr Val His Leu Arg Ile |     |     |
| 370   | 375 | 380 |
| His Thr Gly Glu Lys Pro Tyr Glu Cys Ser Lys Cys Gly Lys Ala Phe |     |     |
| 385   | 390 | 395 |
| Arg Asp Gly Ser Tyr Leu Thr Gln His Glu Arg Thr His Thr Gly Glu |     |     |
| 405   | 410 | 415 |
| Lys Pro Phe Glu Cys Ala Glu Cys Gly Lys Ser Phe Asn Arg Asn Ser |     |     |
| 420   | 425 | 430 |
| His Leu Ile Val His Gln Lys Ile His Ser Gly Glu Lys Pro Tyr Glu |     |     |
| 435   | 440 | 445 |
| Cys Lys Glu Cys Gly Lys Thr Phe Ile Glu Ser Ala Tyr Leu Ile Arg |     |     |
| 450   | 455 | 460 |
| His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Gly Cys Asn Gln Cys |     |     |
| 465   | 470 | 475 |
| Gln Lys Leu Phe Arg Asn Ile Ala Gly Leu Ile Arg His Gln Arg Thr |     |     |
| 485   | 490 | 495 |
| His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Gln Cys Gly Lys Ala Phe |     |     |
| 500   | 505 | 510 |
| Arg Asp Ser Ser Cys Leu Thr Lys His Gln Arg Ile His Thr Lys Glu |     |     |
| 515   | 520 | 525 |
| Thr Pro Tyr Gln Cys Pro Glu Cys Gly Lys Ser Phe Lys Gln Asn Ser |     |     |
| 530   | 535 | 540 |
| His Leu Ala Val His Gln Arg Leu His Ser Arg Glu Gly Pro Ser Arg |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 545 |     | 550 |     | 555 |     | 560 |     |     |     |     |     |     |     |     |     |
| Cys | Pro | Gln | Cys | Gly | Lys | Met | Phe | Gln | Lys | Ser | Ser | Ser | Leu | Val | Arg |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |
| His | Gln | Arg | Ala | His | Leu | Gly | Glu | Gln | Pro | Met | Glu | Thr | Xaa | Trp | Leu |
|     |     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |
| Gly | Ala | Thr | Xaa | Val | Phe | Gln | Phe | Thr | Leu | Thr | Pro | Val | Phe | Arg | Arg |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Arg | Val | Leu | Asp | Leu | Thr | Pro | Leu | Trp | Ser | Val | Glu | Lys | Asn | Pro | Leu |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Ser | Tyr | Pro | Val | Asn |     |     |     |     |     |     |     |     |     |     |     |
| 625 |     |     |     | 629 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3003

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (495)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3003

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Thr | Glu | His | Leu | Ser | Phe | Phe | Gln | Pro | Thr | Ala | His | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ser | Leu | Leu | Gly | Thr | Met | Thr | Thr | Cys | Ser | Arg | Gln | Phe | Thr | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ser | Ser | Met | Lys | Gly | Ser | Cys | Gly | Ile | Gly | Gly | Gly | Ile | Gly | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Ser | Ser | Arg | Ile | Ser | Ser | Val | Leu | Ala | Gly | Gly | Ser | Cys | Arg | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Ser | Thr | Tyr | Gly | Gly | Gly | Leu | Ser | Val | Ser | Ser | Arg | Phe | Ser | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Gly | Ala | Cys | Gly | Leu | Gly | Gly | Gly | Tyr | Gly | Gly | Gly | Phe | Ser | Ser |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser | Ser | Ser | Phe | Gly | Ser | Gly | Phe | Gly | Gly | Gly | Tyr | Gly | Gly | Gly | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Ala | Gly | Phe | Gly | Gly | Gly | Leu | Gly | Ala | Gly | Phe | Gly | Gly | Gly | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gly | Gly | Asp | Gly | Leu | Leu | Val | Gly | Ser | Glu | Lys | Val | Thr | Met | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Leu | Asn | Asp | Arg | Leu | Ala | Ser | Tyr | Leu | Asp | Lys | Val | Arg | Ala | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Glu | Ala | Asn | Ala | Asp | Leu | Glu | Val | Lys | Ile | Arg | Asp | Trp | Tyr | Gln |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Gln | Arg | Pro | Ser | Glu | Ile | Lys | Asp | Tyr | Ser | Pro | Tyr | Phe | Lys | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Ile | Glu | Asp | Leu | Arg | Asn | Lys | Ile | Ile | Ala | Ala | Thr | Ile | Glu | Asn | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Gln | Pro | Ile | Leu | Gln | Ile | Asp | Asn | Ala | Arg | Leu | Ala | Ala | Asp | Asp | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Thr | Lys | Tyr | Glu | His | Glu | Leu | Ala | Leu | Arg | Gln | Thr | Val | Glu | Ala |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Asp | Val | Asn | Gly | Leu | Arg | Arg | Val | Leu | Asp | Glu | Leu | Thr | Leu | Ala | Arg |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Asp | Leu | Glu | Met | Gln | Ile | Glu | Gly | Leu | Lys | Glu | Glu | Leu | Ala | Tyr |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Arg | Lys | Asn | His | Xaa | Glu | Glu | Met | Leu | Ala | Leu | Arg | Gly | Gln | Thr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Gly | Glu | Val | Asn | Val | Glu | Thr | Asp | Ala | Ala | Pro | Gly | Val | Asp | Leu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Cys | Ile | Leu | Asn | Glu | Met | Arg | Asn | Gln | Tyr | Glu | Gln | Met | Ala | Glu |

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 305   |     | 310 |     | 315 |     | 320 |
| Lys Asn Arg Arg Asp Ala Glu Thr Trp Phe Leu Ser Lys Thr Glu Glu |     |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |     |
| Leu Asn Lys Glu Val Ala Ser Asn Ser Glu Leu Val Gln Ser Ser Arg |     |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |     |
| Ser Glu Val Thr Glu Leu Arg Arg Val Leu Gln Gly Leu Glu Ile Glu |     |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |     |
| Leu Gln Ser Gln Leu Ser Met Lys Ala Ser Leu Glu Asn Ser Leu Glu |     |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |     |
| Glu Thr Lys Gly Arg Tyr Cys Met Gln Leu Ser Gln Ile Gln Gly Leu |     |     |     |     |     |     |
| 385   |     | 390 |     | 395 |     | 400 |
| Ile Gly Ser Val Glu Glu Gln Leu Ala Gln Leu Arg Cys Glu Met Glu |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Gln Gln Ser Gln Glu Tyr Gln Ile Leu Leu Asp Val Lys Thr Arg Leu |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Glu Gln Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Asp Ala |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| His Leu Ser Ser Gln Gln Ala Ser Gly Gln Ser Tyr Ser Ser Arg Glu |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Val Phe Thr Ser Ser Ser Ser Ser Ser Arg Gln Thr Arg Pro Ile     |     |     |     |     |     |     |
| 465   |     | 470 |     | 475 |     | 480 |
| Leu Lys Glu Gln Ser Ser Ser Ser Phe Ser Gln Gly Gln Ser Ser     |     |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |     |

<210> 3004  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 3004

|   |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|---|-----|---|-----|----|-----|----|--|--|--|--|--|--|--|--|--|
| Gly Cys Ala Pro Asp Thr Arg Phe Phe Val Pro Glu Pro Gly Gly Arg |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
| 1   |     | 5 |     | 10 |     | 15 |  |  |  |  |  |  |  |  |  |
| Gly Ala Ala Pro Trp Val Ala Leu Val Ala Arg Gly Gly Cys Thr Phe |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 20  |   | 25  |    | 30  |    |  |  |  |  |  |  |  |  |  |
| Lys Asp Lys Val Leu Val Ala Ala Arg Arg Asn Ala Ser Ala Val Val |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 35  |   | 40  |    | 45  |    |  |  |  |  |  |  |  |  |  |
| Leu Tyr Asn Glu Glu Arg Tyr Gly Asn Ile Thr Leu Pro Met Ser His |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 50  |   | 55  |    | 60  |    |  |  |  |  |  |  |  |  |  |
| Ala Gly Thr Gly Asn Ile Val Val Ile Met Ile Ser Tyr Pro Lys Gly |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 65  |   | 70  |    | 75  |    |  |  |  |  |  |  |  |  |  |
| Arg Glu Ile Leu Glu Leu Val Gln Lys Gly Ile Pro Val Thr Met Thr |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 85  |   | 90  |    | 95  |    |  |  |  |  |  |  |  |  |  |
| Ile Gly Val Gly Thr Arg His Val Gln Glu Phe Ile Ser Gly Gln Ser |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 100 |   | 105 |    | 110 |    |  |  |  |  |  |  |  |  |  |
| Val Val Phe Val Ala Ile Ala Phe Ile Thr Met Met Ile Ile Ser Leu |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 115 |   | 120 |    | 125 |    |  |  |  |  |  |  |  |  |  |
| Ala Trp Leu Ile Phe Tyr Tyr Ile Gln Arg Phe Leu Tyr Thr Gly Ser |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 130 |   | 135 |    | 140 |    |  |  |  |  |  |  |  |  |  |
| Gln Ile Gly Ser Gln Ser His Arg Lys Glu Thr Lys Lys Val Ile Gly |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 145 |   | 150 |    | 155 |    |  |  |  |  |  |  |  |  |  |
| Gln Leu Leu Leu His Thr Val Lys His Gly Glu Lys Gly Ile Asp Val |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 165 |   | 170 |    | 175 |    |  |  |  |  |  |  |  |  |  |
| Asp Ala Glu Asn Cys Ala Val Cys Ile Glu Asn Phe Lys Val Lys Asp |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 180 |   | 185 |    | 190 |    |  |  |  |  |  |  |  |  |  |
| Ile Ile Arg Ile Leu Pro Cys Lys His Ile Phe His Arg Ile Cys Ile |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 195 |   | 200 |    | 205 |    |  |  |  |  |  |  |  |  |  |
| Asp Pro Trp Leu Leu Asp His Arg Thr Cys Pro Met Cys Lys Leu Asp |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 210 |   | 215 |    | 220 |    |  |  |  |  |  |  |  |  |  |
| Val Ile Lys Ala Leu Gly Tyr Trp Gly Glu Pro Gly Asp Val Gln Glu |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |
|   | 225 |   | 230 |    | 235 |    |  |  |  |  |  |  |  |  |  |
| Met Pro Ala Pro Glu Ser Pro Pro Gly Arg Asp Pro Ala Ala Asn Leu |     |   |     |    |     |    |  |  |  |  |  |  |  |  |  |

```
<210> 3005
<211> 789
<212> PRT
<213> Homo sapiens
```

4681



|   |                                     |     |
|---|-------------------------------------|-----|
| 355   | 360                                 | 365 |
| Thr Thr Ile Val Lys Ile Ser                                     | Ile Glu Asp Val Asp Glu Pro Pro Val |     |
| 370   | 375                                 | 380 |
| Phe Ser Arg Ser Ser Tyr Leu Phe Glu Val His Glu Asp Ile Glu Val |                                     |     |
| 385   | 390                                 | 395 |
| Gly Thr Ile Ile Gly Thr Val Met Ala Arg Asp Pro Asp Ser Ile Ser |                                     | 400 |
| 405   | 410                                 | 415 |
| Ser Pro Ile Arg Phe Ser Leu Asp Arg His Thr Asp Leu Asp Arg Ile |                                     |     |
| 420   | 425                                 | 430 |
| Phe Asn Ile His Ser Gly Asn Gly Ser Leu Tyr Thr Ser Lys Pro Leu |                                     |     |
| 435   | 440                                 | 445 |
| Asp Arg Glu Leu Ser Gln Trp His Asn Leu Thr Val Ile Ala Ala Glu |                                     |     |
| 450   | 455                                 | 460 |
| Ile Asn Asn Pro Lys Glu Thr Thr Arg Val Ala Val Phe Val Arg Ile |                                     |     |
| 465   | 470                                 | 475 |
| Leu Asp Ala Asn Asp Asn Ala Pro Gln Phe Ala Val Phe Tyr Asp Thr |                                     | 480 |
| 485   | 490                                 | 495 |
| Phe Val Cys Glu Asn Ala Arg Pro Gly Gln Leu Ile Gln Thr Ile Ser |                                     |     |
| 500   | 505                                 | 510 |
| Ala Val Asp Lys Asp Asp Pro Leu Gly Gly Gln Lys Phe Phe Phe Ser |                                     |     |
| 515   | 520                                 | 525 |
| Leu Ala Ala Val Asn Pro Asn Phe Thr Val Gln Asp Asn Glu Asp Asn |                                     |     |
| 530   | 535                                 | 540 |
| Thr Ala Arg Ile Leu Thr Arg Lys Asn Gly Phe Asn Arg His Glu Ile |                                     |     |
| 545   | 550                                 | 555 |
| Ser Thr Tyr Leu Leu Pro Val Val Ile Ser Asp Asn Asp Tyr Pro Ile |                                     | 560 |
| 565   | 570                                 | 575 |
| Gln Ser Ser Thr Gly Thr Leu Thr Ile Arg Val Cys Ala Cys Asp Ser |                                     |     |
| 580   | 585                                 | 590 |
| Gln Gly Asn Met Gln Ser Cys Ser Ala Glu Ala Leu Leu Leu Pro Ala |                                     |     |
| 595   | 600                                 | 605 |
| Gly Leu Ser Thr Gly Ala Leu Ile Ala Ile Leu Leu Cys Ile Ile Ile |                                     |     |
| 610   | 615                                 | 620 |
| Leu Leu Val Ile Val Val Leu Phe Ala Ala Leu Lys Arg Gln Arg Lys |                                     |     |
| 625   | 630                                 | 635 |
| Lys Glu Pro Leu Ile Leu Ser Lys Glu Asp Ile Arg Asp Asn Ile Val |                                     | 640 |
| 645   | 650                                 | 655 |
| Ser Tyr Asn Asp Glu Gly Gly Gly Glu Glu Asp Thr Gln Ala Phe Asp |                                     |     |
| 660   | 665                                 | 670 |
| Ile Gly Thr Leu Arg Asn Pro Ala Ala Ile Glu Glu Lys Lys Leu Arg |                                     |     |
| 675   | 680                                 | 685 |
| Arg Asp Ile Ile Pro Glu Thr Leu Phe Ile Pro Arg Arg Thr Pro Thr |                                     |     |
| 690   | 695                                 | 700 |
| Ala Pro Asp Asn Thr Asp Val Arg Asp Phe Ile Asn Glu Arg Leu Lys |                                     |     |
| 705   | 710                                 | 715 |
| Glu His Asp Leu Asp Pro Thr Ala Pro Pro Tyr Asp Ser Leu Ala Thr |                                     |     |
| 725   | 730                                 | 735 |
| Tyr Ala Tyr Glu Gly Asn Asp Ser Ile Ala Glu Ser Leu Ser Ser Leu |                                     |     |
| 740   | 745                                 | 750 |
| Glu Ser Gly Thr Thr Glu Gly Asp Gln Asn Tyr Asp Tyr Leu Arg Glu |                                     |     |
| 755   | 760                                 | 765 |
| Trp Gly Pro Arg Phe Asn Lys Leu Pro Gln Lys Tyr Gly Gly Gly Glu |                                     |     |
| 770   | 775                                 | 780 |
| Ser Asp Lys Asp Ser   |                                     |     |
| 785   | 789                                 |     |

&lt;210&gt; 3006

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3006

Gly Arg Val Asp Lys Thr Trp Trp Gly Lys Ser Val Gly Ile Met Leu  
 1 5 10 15  
 Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr His Lys  
 20 25 30  
 Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp Asp Leu  
 35 40 45  
 Lys Lys Leu Leu Glu Thr Glu Cys Pro Gln Tyr Ile Arg Lys Lys Gly  
 50 55 60  
 Ala Asp Val Trp Phe Lys Glu Leu Asp Ile Asn Thr Asp Gly Ala Val  
 65 70 75 80  
 Asn Phe Gln Glu Phe Leu Ile Leu Val Ile Lys Met Gly Val Ala Ala  
 85 90 95  
 Leu Asn Ser Ile Ile Asp Val Tyr His Lys Tyr Ser Leu Ile Lys Gly  
 100 105 110  
 Asn Phe His Ala Val Tyr Arg Asp Asp Leu Gln Lys Leu Leu Glu Thr  
 115 120 125  
 Glu Cys Pro Gln Tyr Ile Arg Lys Lys Gly Ala Asp Val Trp Phe Lys  
 130 135 140  
 Glu Leu Asp Ile Asn Thr Asp Gly Ala Val Asn Phe Gln Glu Phe Leu  
 145 150 155 160  
 Ile Leu Val Ile Lys Met Gly Val Gly Ser Pro Gln Lys Lys Val Ala  
 165 170 175  
 Ser Tyr Phe  
 179

&lt;210&gt; 3007

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3007

Met Tyr Glu Gly Ile Arg Cys Leu Leu Lys Ala Leu Leu Gly Phe Val  
 1 5 10 15  
 Ser Leu Ala Ile Gly Thr Leu Tyr Cys Pro Arg Gln Tyr Arg Pro Phe  
 20 25 30  
 Pro Gly Ser Leu Gly Ile Glu Ala Ile Asn Val Pro Glu Pro Ile Pro  
 35 40 45  
 Asp Ser Tyr Tyr Arg Asp Met Ala Thr Trp Pro Thr His Ala Pro Ser  
 50 55 60  
 Val Glu Glu Gly Gly Gln Gly Arg Phe Gly Asn Gln Ala Asp His Phe  
 65 70 75 80  
 Leu Gly Ser Leu Ala Phe Ala Lys Leu Leu Asn Arg Ser Leu Ala Val  
 85 90 95  
 Pro Ser Trp Ile Glu Tyr Gln His His Lys Pro Pro Phe Thr Asn Leu  
 100 105 110  
 His Val Ser Tyr Gln Lys Tyr Phe Lys Leu Glu Pro Leu Gln Ala Tyr  
 115 120 125  
 His Arg Val Ile Ser Leu Glu Asp Phe Met Glu Lys Leu Ala Pro Thr  
 130 135 140  
 His Trp Pro Pro Glu Lys Arg Val Ala Tyr Cys Phe Glu Val Ala Ala  
 145 150 155 160  
 Gln Arg Ser Pro Asp Lys Lys Thr Cys Pro Met Lys Glu Gly Asn Pro  
 165 170 175  
 Phe Gly Pro Phe Trp Asp Gln Phe His Val Ser Phe Asn Lys Ser Glu  
 180 185 190  
 Leu Phe Thr Gly Ile Ser Phe Ser Ala Ser Tyr Arg Glu Gln Trp Ser  
 195 200 205  
 Gln Arg Phe Ser Pro Lys Glu His Pro Val Leu Ala Leu Pro Gly Ala  
 210 215 220  
 Pro Ala Gln Phe Pro Val Leu Glu Glu His Arg Pro Leu Gln Lys Tyr

225 230 235 240  
 Met Val Trp Ser Asp Glu Met Val Lys Thr Gly Glu Ala Gln Ile His  
 245 250 255  
 Ala His Leu Val Arg Pro Tyr Val Gly Ile His Leu Arg Ile Gly Ser  
 260 265 270  
 Asp Trp Lys Asn Ala Cys Ala Met Leu Lys Asp Gly Thr Ala Gly Ser  
 275 280 285  
 His Phe Met Ala Ser Pro Gln Cys Val Gly Tyr Ser Arg Ser Thr Ala  
 290 295 300  
 Ala Pro Leu Thr Met Thr Met Cys Leu Pro Asp Leu Lys Glu Ile Gln  
 305 310 315 320  
 Arg Ala Val Lys Leu Trp Val Arg Ser Leu Asp Ala Gln Ser Val Tyr  
 325 330 335  
 Val Ala Thr Asp Ser Glu Ser Tyr Val Pro Glu Leu Gln Gln Leu Phe  
 340 345 350  
 Lys Gly Lys Val Lys Val Val Ser Leu Lys Pro Glu Val Ala Gln Val  
 355 360 365  
 Asp Leu Tyr Ile Leu Gly Gln Ala Asp His Phe Ile Gly Asn Cys Val  
 370 375 380  
 Ser Ser Phe Thr Ala Phe Val Lys Arg Glu Arg Asp Leu Gln Gly Arg  
 385 390 395 400  
 Pro Ser Ser Phe Phe Gly Met Asp Arg Pro Pro Lys Leu Arg Asp Glu  
 405 410 415  
 Phe  
 417

<210> 3008  
 <211> 412  
 <212> PRT  
 <213> Homo sapiens

<400> 3008  
 Thr Ala Arg Gly Gly Gly Ser Glu Pro Gly Pro Thr Met Ala Ala Asn  
 1 5 10 15  
 Tyr Ser Ser Thr Ser Thr Arg Arg Glu His Val Lys Val Lys Thr Ser  
 20 25 30  
 Ser Gln Pro Gly Phe Leu Glu Arg Leu Ser Glu Thr Ser Gly Gly Met  
 35 40 45  
 Phe Val Gly Leu Met Ala Phe Leu Leu Ser Phe Tyr Leu Ile Phe Thr  
 50 55 60  
 Asn Glu Gly Arg Ala Leu Lys Thr Ala Thr Ser Leu Ala Glu Gly Leu  
 65 70 75 80  
 Ser Leu Val Val Ser Pro Asp Ser Ile His Ser Val Ala Pro Glu Asn  
 85 90 95  
 Glu Gly Arg Leu Val His Ile Ile Gly Ala Leu Arg Thr Ser Lys Leu  
 100 105 110  
 Leu Ser Asp Pro Asn Tyr Gly Val His Leu Pro Ala Val Lys Leu Arg  
 115 120 125  
 Arg His Val Glu Met Tyr Gln Trp Val Glu Thr Glu Glu Ser Arg Glu  
 130 135 140  
 Tyr Thr Glu Asp Gly Gln Val Lys Lys Glu Thr Arg Tyr Ser Tyr Asn  
 145 150 155 160  
 Thr Glu Trp Arg Ser Glu Ile Ile Asn Ser Lys Asn Phe Asp Arg Glu  
 165 170 175  
 Ile Gly His Lys Asn Pro Arg Ala Met Ala Gly Glu Ser Phe Met Ala  
 180 185 190  
 Thr Ala Pro Phe Val Gln Ile Gly Arg Phe Phe Leu Ser Ser Gly Leu  
 195 200 205  
 Ile Asp Lys Val Asp Asn Phe Lys Ser Leu Ser Leu Ser Lys Leu Glu  
 210 215 220  
 Asp Pro His Val Asp Ile Ile Arg Arg Gly Asp Phe Phe Tyr His Ser

|   |                                 |                         |  |     |  |     |
|---|---------------------------------|-------------------------|--|-----|--|-----|
| 225   |                                 | 230                     |  | 235 |  | 240 |
| Glu Asn Pro Lys Tyr   | Pro Glu Val Gly Asp             | Leu Arg Val Ser Phe Ser |  |     |  |     |
|   | 245                             | 250                     |  | 255 |  |     |
| Tyr Ala Gly Leu Ser Gly Asp Asp                                 | Pro Asp Leu Gly Pro Ala His Val |                         |  |     |  |     |
|   | 260                             | 265                     |  | 270 |  |     |
| Val Thr Val Ile Ala Arg Gln Arg Gly Asp Gln Leu Val Pro Phe Ser |                                 |                         |  |     |  |     |
|   | 275                             | 280                     |  | 285 |  |     |
| Thr Lys Ser Gly Asp Thr Leu Leu Leu Leu His His Gly Asp Phe Ser |                                 |                         |  |     |  |     |
|   | 290                             | 295                     |  | 300 |  |     |
| Ala Glu Glu Val Phe His Arg Glu Leu Arg Ser Asn Ser Met Lys Thr |                                 |                         |  |     |  |     |
|   | 305                             | 310                     |  | 315 |  | 320 |
| Trp Gly Leu Arg Ala Ala Gly Trp Met Ala Met Phe Met Gly Leu Asn |                                 |                         |  |     |  |     |
|   | 325                             | 330                     |  | 335 |  |     |
| Leu Met Thr Arg Ile Leu Tyr Thr Leu Val Asp Trp Phe Pro Val Phe |                                 |                         |  |     |  |     |
|   | 340                             | 345                     |  | 350 |  |     |
| Arg Asp Leu Val Asn Ile Gly Leu Lys Ala Phe Ala Phe Cys Val Ala |                                 |                         |  |     |  |     |
|   | 355                             | 360                     |  | 365 |  |     |
| Thr Ser Leu Thr Leu Leu Thr Val Ala Ala Gly Trp Leu Phe Tyr Arg |                                 |                         |  |     |  |     |
|   | 370                             | 375                     |  | 380 |  |     |
| Pro Leu Trp Ala Leu Leu Ile Ala Gly Leu Ala Leu Val Pro Ile Leu |                                 |                         |  |     |  |     |
|   | 385                             | 390                     |  | 395 |  | 400 |
| Val Ala Arg Thr Arg Val Pro Ala Lys Lys Leu Glu                 |                                 |                         |  |     |  |     |
|   | 405                             | 410                     |  | 412 |  |     |

<210> 3009  
 <211> 188  
 <212> PRT  
 <213> Homo sapiens

<400> 3009

|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
|---|----|---|--|--|--|-----|--|--|--|--|--|--|-----|----|-----|
| Asp Ala Ala Val Ala Met Thr Ala Gln Gly Gly Leu Val Ala Asn Arg |    |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
| 1   |    | 5 |  |  |  | 10  |  |  |  |  |  |  |     | 15 |     |
| Gly Arg Arg Phe Lys Trp Ala Ile Glu Leu Ser Gly Pro Gly Gly Gly |    |   |  |  |  | 25  |  |  |  |  |  |  | 30  |    |     |
|   | 20 |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
| Ser Arg Gly Arg Ser Asp Arg Gly Ser Gly Gln Gly Asp Ser Leu Tyr |    |   |  |  |  | 40  |  |  |  |  |  |  | 45  |    |     |
|   | 35 |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
| Pro Val Gly Tyr Leu Asp Lys Gln Val Pro Asp Thr Ser Val Gln Glu |    |   |  |  |  | 55  |  |  |  |  |  |  | 60  |    |     |
|   | 50 |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
| Thr Asp Arg Ile Leu Val Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly |    |   |  |  |  | 70  |  |  |  |  |  |  | 75  |    | 80  |
|   | 65 |   |  |  |  |     |  |  |  |  |  |  |     |    |     |
| Pro Leu Lys Gln Ile Pro Met Asn Leu Phe Ile Met Tyr Met Ala Gly |    |   |  |  |  | 85  |  |  |  |  |  |  | 90  |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 95  |
| Asn Thr Ile Ser Ile Phe Pro Thr Met Met Val Cys Met Met Ala Trp |    |   |  |  |  | 100 |  |  |  |  |  |  | 105 |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 110 |
| Arg Pro Ile Gln Ala Leu Met Ala Ile Ser Ala Thr Phe Lys Met Leu |    |   |  |  |  | 115 |  |  |  |  |  |  | 120 |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 125 |
| Glu Ser Ser Ser Gln Lys Phe Leu Gln Gly Leu Val Tyr Leu Ile Gly |    |   |  |  |  | 130 |  |  |  |  |  |  | 135 |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 140 |
| Asn Leu Met Gly Leu Ala Leu Ala Val Tyr Lys Cys Gln Ser Met Gly |    |   |  |  |  | 145 |  |  |  |  |  |  | 150 |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 155 |
| Leu Leu Pro Thr His Ala Ser Asp Trp Leu Ala Phe Ile Glu Pro Pro |    |   |  |  |  | 160 |  |  |  |  |  |  | 165 |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 170 |
| Glu Arg Met Glu Phe Ser Gly Gly Gly Leu Leu Leu                 |    |   |  |  |  | 175 |  |  |  |  |  |  |     |    |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 180 |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 185 |
|   |    |   |  |  |  |     |  |  |  |  |  |  |     |    | 188 |

<210> 3010  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3010

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Leu Ile Asp Ser Ala Lys Ala Arg Tyr Trp Thr Gln Arg Gly Thr Trp
 1           5           10           15
Val Tyr Asp Asn Ala Leu Leu Leu Leu Lys Cys Leu Trp Ser Asn
          20           25           30
Val Val Pro Glu Cys Thr Met Ala Ser Ser Asn Thr Val Leu Met Arg
          35           40           45
Leu Val Ala Ser Ala Tyr Ser Ile Ala Gln Lys Ala Gly Met Ile Val
          50           55           60
Arg Arg Val Ile Ala Glu Gly Asp Leu Gly Ile Val Glu Lys Thr Cys
          65           70           75           80
Ala Thr Asp Leu Gln Thr Lys Ala Asp Arg Leu Ala Gln Met Ser Ile
          85           90           95
Cys Ser Ser Leu Ala Arg Lys Phe Pro Lys Leu Thr Ile Ile Gly Glu
          100          105          110
Glu Asp Leu Pro Ser Glu Glu Val Asp Gln Glu Leu Ile Glu Asp Ser
          115          120          125
Gln Trp Glu Glu Ile Leu Lys Gln Pro Cys Pro Ser Gln Tyr Ser Ala
          130          135          140
Ile Lys Glu Glu Asp Leu Val Val Trp Val Asp Pro Leu Asp Gly Thr
          145          150          155          160
Lys Glu Tyr Thr Glu Gly Leu Leu Asp Asn Val Thr Val Leu Ile Gly
          165          170          175
Ile Ala Tyr Glu Gly Lys Ala Ile Ala Gly Val Ile Asn Gln Pro Tyr
          180          185          190
Tyr Asn Tyr Glu Ala Gly Pro Asp Ala Val Leu Gly Arg Thr Ile Trp
          195          200          205
Gly Val Leu Gly Leu Gly Ala Phe Gly Phe Gln Leu Lys Glu Val Pro
          210          215          220
Ala Gly Lys His Ile Ile Thr Thr Thr Arg Ser His Ser Asn Lys Leu
          225          230          235          240
Val Thr Asp Cys Val Ala Ala Met Asn Pro Asp Ala Val Leu Arg Val
          245          250          255
Gly Gly Ala Gly Asn Lys Ile Ile Gln Leu Ile Glu Gly Lys Ala Ser
          260          265          270
Ala Tyr Val Phe Ala Ser Pro Gly Cys Lys Lys Trp Asp Thr Cys Ala
          275          280          285
Pro Glu Val Ile Leu His Ala Val Gly Gly Lys Leu Thr Asp Ile His
          290          295          300
Gly Asn Val Leu Gln Tyr His Lys Asp Val Lys His Met Asn Ser Ala
          305          310          315          320
Gly Val Leu Ala Thr Leu Arg Asn Tyr Asp Tyr Tyr Ala Ser Arg Val
          325          330          335
Pro Glu Ser Ile Lys Asn Ala Leu Val Pro
          340          345 346

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&lt;210&gt; 3011

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3011

```

Ser Pro Gln Lys Thr Met Arg Ser His Thr Ile Thr Met Thr Thr Thr
 1           5           10           15
Ser Val Ser Ser Trp Pro Tyr Ser Ser His Arg Met Arg Phe Ile Thr
          20           25           30
Asn His Ser Asp Gln Pro Pro Gln Asn Phe Ser Ala Thr Pro Asn Val
          35           40           45
Thr Thr Cys Pro Met Asp Glu Lys Leu Leu Ser Thr Val Leu Thr Thr

```



|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Ser Tyr Ser Val Ile Phe Ile Val Gly Leu Val Gly Asn Ile Ile Ala |     |     |
| 65  | 70  | 75  |
| Leu Tyr Val Phe Leu Gly Ile His Arg Lys Arg Asn Ser Ile Gln Ile |     | 80  |
|   | 85  | 90  |
| Tyr Leu Leu Asn Val Ala Ile Ala Asp Leu Leu Leu Ile Phe Cys Leu |     | 95  |
|   | 100 | 105 |
| Pro Phe Arg Ile Met Tyr His Ile Asn Gln Asn Lys Trp Thr Leu Gly |     | 110 |
|   | 115 | 120 |
| Val Ile Leu Cys Lys Val Val Gly Thr Leu Phe Tyr Met Asn Met Tyr |     | 125 |
|   | 130 | 135 |
| Ile Ser Ile Ile Leu Leu Gly Phe Ile Ser Leu Asp Arg Tyr Ile Lys |     | 140 |
| 145   | 150 | 155 |
| Ile Asn Arg Ser Ile Gln Gln Arg Lys Ala Ile Thr Thr Lys Gln Ser |     | 160 |
|   | 165 | 170 |
| Ile Tyr Val Cys Cys Ile Val Trp Met Leu Ala Leu Gly Gly Phe Leu |     | 175 |
|   | 180 | 185 |
| Thr Met Ile Ile Leu Thr Leu Lys Lys Gly Gly His Asn Ser Thr Met |     | 190 |
|   | 195 | 200 |
| Cys Phe His Tyr Arg Asp Lys His Asn Ala Lys Gly Glu Ala Ile Phe |     | 205 |
|   | 210 | 215 |
| Asn Phe Ile Leu Val Val Met Phe Trp Leu Ile Phe Leu Leu Ile Ile |     | 220 |
| 225   | 230 | 235 |
| Leu Ser Tyr Ile Lys Ile Gly Lys Asn Leu Leu Arg Ile Ser Lys Arg |     | 240 |
|   | 245 | 250 |
| Arg Ser Lys Phe Pro Asn Ser Gly Lys Tyr Ala Thr Thr Ala Arg Asn |     | 255 |
|   | 260 | 265 |
| Ser Phe Ile Val Leu Ile Ile Phe Thr Ile Cys Phe Val Pro Tyr His |     | 270 |
|   | 275 | 280 |
| Ala Phe Arg Phe Ile Tyr Ile Ser Ser Gln Leu Asn Val Ser Ser Cys |     | 285 |
|   | 290 | 295 |
| Tyr Trp Lys Glu Ile Val His Lys Thr Asn Glu Ile Met Leu Val Leu |     | 300 |
| 305   | 310 | 315 |
| Ser Ser Phe Asn Ser Cys Leu Asp Pro Val Met Tyr Phe Leu Met Ser |     | 320 |
|   | 325 | 330 |
| Ser Asn Ile Arg Lys Ile Met Cys Gln Leu Leu Phe Arg Arg Phe Gln |     | 335 |
|   | 340 | 345 |
| Gly Glu Pro Ser Arg Ser Glu Ser Thr Ser Glu Phe Lys Pro Gly Tyr |     | 350 |
|   | 355 | 360 |
| Ser Leu His Asp Thr Ser Val Ala Val Lys Ile Gln Ser Ser Ser Lys |     | 365 |
|   | 370 | 375 |
| Ser Thr   |     | 380 |
| 385 386   |     |     |

&lt;210&gt; 3012

&lt;211&gt; 366

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3012

|   |    |
|---|----|
| Thr Glu Pro Val Gly Tyr Thr Lys Ala Glu Glu Pro Ile Ala Met Arg |    |
| 1   | 5  |
| Ser Leu Gly Ala Leu Leu Leu Leu Leu Ser Ala Cys Leu Ala Val Ser | 10 |
|   | 15 |
|   | 20 |
| Ala Gly Pro Val Pro Thr Pro Pro Asp Asn Ile Gln Val Gln Glu Asn | 25 |
|   | 30 |
|   | 35 |
| Phe Asn Ile Ser Arg Ile Tyr Gly Lys Trp Tyr Asn Leu Ala Ile Gly | 40 |
|   | 45 |
|   | 50 |
| Ser Thr Cys Pro Trp Leu Lys Lys Ile Met Asp Arg Met Thr Val Ser | 55 |
|   | 60 |
|   | 65 |
| Thr Leu Val Leu Gly Glu Gly Ala Thr Glu Ala Glu Ile Ser Met Thr | 70 |
|   | 75 |
|   | 80 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | Thr | Arg | Trp | Arg | Lys | Gly | Val | Cys | Glu | Glu | Thr | Ser | Gly | Ala | Tyr |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Lys | Thr | Asp | Thr | Asp | Gly | Lys | Phe | Leu | Tyr | His | Lys | Ser | Lys | Trp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Asn | Ile | Thr | Met | Glu | Ser | Tyr | Val | Val | His | Thr | Asn | Tyr | Asp | Glu | Tyr |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ala | Ile | Phe | Leu | Thr | Lys | Lys | Phe | Ser | Arg | His | His | Gly | Pro | Thr | Ile |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Thr | Ala | Lys | Leu | Tyr | Gly | Arg | Ala | Pro | Gln | Leu | Arg | Glu | Thr | Leu | Leu |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Gln | Asp | Phe | Arg | Val | Val | Ala | Gln | Gly | Val | Gly | Ile | Pro | Glu | Asp | Ser |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |  |
| Ile | Phe | Thr | Met | Ala | Asp | Arg | Gly | Glu | Cys | Val | Pro | Gly | Glu | Gln | Glu |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Pro | Glu | Pro | Ile | Leu | Ile | Pro | Arg | Val | Arg | Arg | Ala | Val | Leu | Pro | Gln |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Glu | Glu | Glu | Gly | Ser | Gly | Gly | Gly | Gln | Leu | Val | Thr | Glu | Val | Thr | Lys |  |  |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     |     | 240 |  |  |
| Lys | Glu | Asp | Ser | Cys | Gln | Leu | Gly | Tyr | Ser | Ala | Gly | Pro | Cys | Met | Gly |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Met | Thr | Ser | Arg | Tyr | Phe | Tyr | Asn | Gly | Thr | Ser | Met | Ala | Cys | Glu | Thr |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |  |  |
| Phe | Gln | Tyr | Gly | Gly | Cys | Met | Gly | Asn | Gly | Asn | Asn | Phe | Val | Thr | Glu |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Lys | Glu | Cys | Leu | Gln | Thr | Cys | Arg | Thr | Val | Ala | Ala | Cys | Asn | Leu | Pro |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Ile | Val | Arg | Gly | Pro | Cys | Arg | Ala | Phe | Ile | Gln | Leu | Trp | Ala | Phe | Asp |  |  |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Ala | Val | Lys | Gly | Lys | Cys | Val | Leu | Phe | Pro | Tyr | Gly | Gly | Cys | Gln | Gly |  |  |
|     |     |     | 325 |     |     |     | 330 |     |     |     |     |     |     | 335 |     |  |  |
| Asn | Gly | Asn | Lys | Phe | Tyr | Ser | Glu | Lys | Glu | Cys | Arg | Glu | Tyr | Cys | Gly |  |  |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |  |  |
| Val | Pro | Gly | Asp | Gly | Asp | Glu | Glu | Leu | Leu | Arg | Phe | Ser | Asn |     |     |  |  |
|     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 | 366 |     |     |  |  |

&lt;210&gt; 3013

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3013

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Gln | Met | Ala | Leu | Leu | Lys | Ala | Asn | Lys | Asp | Leu | Ile | Ser | Ala | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Leu | Lys | Glu | Phe | Ser | Val | Leu | Leu | Asn | Gln | Gln | Val | Phe | Asn | Asp | Pro |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Leu | Val | Ser | Glu | Glu | Asp | Met | Val | Thr | Val | Val | Glu | Asp | Trp | Met | Asn |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Phe | Tyr | Ile | Asn | Tyr | Tyr | Arg | Gln | Gln | Val | Thr | Gly | Glu | Pro | Gln | Glu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Arg | Asp | Lys | Ala | Leu | Gln | Glu | Leu | Arg | Gln | Glu | Leu | Asn | Thr | Leu | Ala |  |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Asn | Pro | Phe | Leu | Ala | Lys | Tyr | Arg | Asp | Phe | Leu | Lys | Ser | His | Glu | Leu |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Pro | Ser | His | Pro | Pro | Pro | Ser | Ser |     |     |     |     |     |     |     |     |  |  |
|     |     | 100 |     |     |     | 104 |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3014

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3014

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Ser | Trp | Ser | Thr | Leu | Arg | Ala | Val | Met | Ser | Ala | Ser | Val | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Val | Ser | Arg | Val | Leu | Glu | Glu | Tyr | Leu | Ser | Ser | Thr | Pro | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Leu | Lys | Leu | Leu | Asp | Ala | Tyr | Leu | Leu | Tyr | Ile | Leu | Leu | Thr | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Leu | Gln | Phe | Gly | Tyr | Cys | Leu | Phe | Val | Leu | Thr | Phe | His | Phe | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Leu | Leu | Leu | Phe | Phe | Phe | Phe | Cys | Val | Gly | Ser | Phe | His | Ser | Asn |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Tyr | Phe | Leu | Leu | Phe | Thr | Leu | Ser | Phe | Leu | Cys | Phe | Leu | Phe | Ile |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Tyr | Phe | Phe | Leu | Ile | Arg | Phe | Phe | Ser | Leu | Phe | Ile | Trp | Phe | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Val | Phe | Phe | Ile | Glu | Leu | Ser | Leu | Phe | Tyr | Phe |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 124 |     |     |     |     |

&lt;210&gt; 3015

&lt;211&gt; 439

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3015

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Ala | Glu | Gly | Thr | Ala | Pro | Ser | Pro | Gly | Arg | Val | Ser | Pro | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Pro | Ala | Arg | Gly | Glu | Pro | Glu | Val | Thr | Val | Glu | Ile | Gly | Glu | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Leu | Cys | Arg | Arg | Pro | Asp | Ser | Thr | Trp | His | Ser | Ala | Glu | Val | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Ser | Arg | Val | Asn | Asp | Gln | Glu | Gly | Arg | Glu | Glu | Phe | Tyr | Val | His |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Val | Gly | Phe | Asn | Arg | Arg | Leu | Asp | Glu | Trp | Val | Asp | Lys | Asn | Arg |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Ala | Leu | Thr | Lys | Thr | Val | Lys | Asp | Ala | Val | Gln | Lys | Asn | Ser | Glu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Lys | Tyr | Leu | Ser | Glu | Leu | Ala | Glu | Gln | Pro | Glu | Arg | Lys | Ile | Thr | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Gln | Lys | Arg | Lys | His | Asp | Glu | Ile | Asn | His | Val | Gln | Lys | Thr | Tyr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Glu | Met | Asp | Pro | Thr | Thr | Ala | Ala | Leu | Glu | Lys | Glu | His | Glu | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Thr | Lys | Val | Lys | Tyr | Val | Asp | Lys | Ile | His | Ile | Gly | Asn | Tyr | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Asp | Ala | Trp | Tyr | Phe | Ser | Pro | Phe | Pro | Glu | Asp | Tyr | Gly | Lys | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Pro | Lys | Leu | Trp | Leu | Cys | Glu | Tyr | Cys | Leu | Lys | Tyr | Met | Lys | Tyr | Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Lys | Ser | Tyr | Arg | Phe | His | Leu | Gly | Gln | Cys | Gln | Trp | Arg | Gln | Pro | Pro |
|     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |
| Gly | Lys | Glu | Ile | Tyr | Arg | Lys | Ser | Asn | Ile | Ser | Val | Tyr | Glu | Val | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | Lys | Asp | His | Lys | Ile | Tyr | Cys | Gln | Asn | Leu | Cys | Leu | Leu | Ala | Lys |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Leu | Phe | Leu | Asp | His | Lys | Thr | Leu | Tyr | Phe | Asp | Val | Glu | Pro | Phe | Val |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Phe | Tyr | Ile | Leu | Thr | Glu | Val | Asp | Arg | Gln | Gly | Ala | His | Ile | Val | Gly |

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<210> 3016
<211> 439
<212> PRT
<213> Homo sapiens
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4690

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |  |  |
| Phe | Tyr | Ile | Leu | Thr | Glu | Val | Asp | Arg | Gln | Gly | Ala | His | Ile | Val | Gly |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Tyr | Phe | Ser | Lys | Glu | Lys | Glu | Ser | Pro | Asp | Gly | Asn | Asn | Val | Ala | Cys |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |  |  |
| Ile | Leu | Thr | Leu | Pro | Pro | Tyr | Gln | Arg | Arg | Gly | Tyr | Gly | Lys | Phe | Leu |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |  |
| Ile | Ala | Phe | Ser | Tyr | Glu | Leu | Ser | Lys | Leu | Glu | Ser | Thr | Val | Gly | Ser |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Pro | Glu | Lys | Pro | Leu | Ser | Asp | Leu | Gly | Lys | Leu | Ser | Tyr | Arg | Ser | Tyr |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Trp | Ser | Trp | Val | Leu | Leu | Glu | Ile | Leu | Arg | Asp | Phe | Arg | Gly | Thr | Leu |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Ser | Ile | Lys | Asp | Leu | Ser | Gln | Met | Thr | Ser | Ile | Thr | Gln | Asn | Asp | Ile |  |  |
|     | 355 |     |     |     |     | 360 |     |     |     | 365 |     |     |     |     |     |  |  |
| Ile | Ser | Thr | Leu | Gln | Ser | Leu | Asn | Met | Val | Lys | Tyr | Trp | Lys | Gly | Gln |  |  |
|     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |  |  |
| His | Val | Ile | Cys | Val | Thr | Pro | Lys | Leu | Val | Glu | Glu | His | Leu | Lys | Ser |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Ala | Gln | Tyr | Lys | Lys | Pro | Pro | Ile | Thr | Gly | Gly | Trp | Gly | Ala | Ala | Val |  |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     | 415 |     |     |  |  |
| Cys | Arg | Gly | Arg | Trp | Gly | Ser | Val | Ser | Ile | Trp | Thr | Gly | Arg | Ser | Gln |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Gly | Leu | Leu | Ile | Ala | Val | Thr |     |     |     |     |     |     |     |     |     |  |  |
|     | 435 |     |     |     |     | 439 |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3017

&lt;211&gt; 222

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3017

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Glu | Ala | His | Pro | Gly | Gly | Gln | Leu | Gly | Ser | Glu | Arg | Asn | Gly | Val | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Met | Asp | Glu | Asp | Val | Leu | Thr | Thr | Leu | Lys | Ile | Leu | Ile | Ile | Gly | Glu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ser | Gly | Val | Gly | Lys | Ser | Ser | Leu | Leu | Leu | Arg | Phe | Thr | Asp | Asp | Thr |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Phe | Asp | Pro | Glu | Leu | Ala | Ala | Thr | Ile | Gly | Val | Asp | Phe | Lys | Val | Lys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Thr | Ile | Ser | Val | Asp | Gly | Asn | Lys | Ala | Lys | Leu | Ala | Ile | Trp | Asp | Thr |  |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Gly | Gln | Glu | Arg | Phe | Arg | Thr | Leu | Thr | Pro | Ser | Tyr | Tyr | Arg | Gly |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Ala | Gln | Gly | Val | Ile | Leu | Val | Tyr | Asp | Val | Thr | Arg | Arg | Asp | Thr | Phe |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Val | Lys | Leu | Asp | Asn | Trp | Leu | Asn | Glu | Leu | Glu | Thr | Tyr | Cys | Thr | Arg |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Asn | Asp | Ile | Val | Asn | Met | Leu | Val | Gly | Asn | Lys | Ile | Asp | Lys | Glu | Asn |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | Glu | Val | Asp | Arg | Asn | Glu | Gly | Leu | Lys | Phe | Ala | Arg | Lys | His | Ser |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Met | Leu | Phe | Ile | Glu | Ala | Ser | Ala | Lys | Thr | Cys | Asp | Gly | Val | Gln | Cys |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ala | Phe | Glu | Glu | Leu | Val | Glu | Lys | Ile | Ile | Gln | Thr | Pro | Gly | Leu | Trp |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Glu | Ser | Glu | Asn | Gln | Asn | Lys | Gly | Val | Lys | Leu | Ser | His | Arg | Glu | Glu |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Gly | Gln | Gly | Gly | Gly | Ala | Cys | Gly | Gly | Tyr | Cys | Ser | Val | Leu |     |     |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     | 222 |     |     |  |  |



<210> 3018  
 <211> 73  
 <212> PRT  
 <213> Homo sapiens

<400> 3018  
 Ala Pro Val Leu Ile Leu Gln Met Val Lys Leu Ser Ile Val Leu Thr  
 1 5 10 15  
 Pro Gln Phe Leu Ser His Asp Gln Gly Gln Leu Thr Lys Glu Leu Gln  
 20 25 30  
 Gln His Val Lys Ser Val Thr Cys Pro Cys Glu Tyr Leu Arg Lys Val  
 35 40 45  
 Ser Glu Cys Arg Gln Met Gly Pro Gly Ala Leu Glu Gln Phe Pro Gly  
 50 55 60  
 Leu Ser Cys His Thr Ser His Ser Gly  
 65 70 73

<210> 3019  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 3019  
 Pro Gly Ile Thr Met Ala Ala Ser Leu Val Gly Lys Lys Ile Val Phe  
 1 5 10 15  
 Val Thr Gly Asn Ala Lys Lys Leu Glu Glu Val Val Gln Ile Leu Gly  
 20 25 30  
 Asp Lys Phe Pro Cys Thr Leu Val Ala Gln Lys Ile Asp Leu Pro Glu  
 35 40 45  
 Tyr Gln Gly Glu Pro Asp Glu Ile Ser Ile Gln Lys Cys Gln Glu Ala  
 50 55 60  
 Val Arg Gln Val Gln Gly Pro Val Leu Val Glu Asp Thr Cys Leu Cys  
 65 70 75 80  
 Phe Asn Ala Leu Gly Gly Leu Pro Gly Pro Tyr Ile Lys Trp Phe Leu  
 85 90 95  
 Glu Lys Leu Lys Pro Glu Gly Leu His Gln Leu Leu Ala Gly Phe Glu  
 100 105 110  
 Asp Lys Ser Ala Tyr Ala Leu Cys Thr Phe Ala Leu Ser Thr Gly Asp  
 115 120 125  
 Pro Ser Gln Pro Val Arg Leu Phe Arg Gly Arg Thr Ser Gly Arg Ile  
 130 135 140  
 Val Ala Pro Arg Gly Cys Gln Asp Phe Gly Trp Asp Pro Cys Phe Gln  
 145 150 155 160  
 Pro Asp Gly Tyr Glu Gln Thr Tyr Ala Glu Met Pro Lys Ala Glu Lys  
 165 170 175  
 Asn Ala Val Ser His Arg Phe Arg Ala Leu Leu Glu Leu Gln Glu Tyr  
 180 185 190  
 Phe Gly Ser Leu Ala Ala  
 195 198

<210> 3020  
 <211> 340  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3020

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Val Ser Cys Leu Pro Thr Ser Cys Lys Met Ile Thr Leu Asn Asn Gln
 1          5          10          15
Asp Gln Pro Val Pro Phe Asn Ser Ser His Pro Asp Glu Tyr Lys Ile
          20          25          30
Ala Ala Leu Val Phe Tyr Ser Cys Ile Phe Ile Ile Gly Leu Phe Val
          35          40          45
Asn Ile Thr Ala Leu Trp Val Phe Ser Cys Thr Thr Lys Lys Arg Thr
          50          55          60
Thr Val Thr Ile Tyr Met Met Asn Val Ala Leu Val Asp Leu Ile Phe
          65          70          75          80
Ile Met Thr Leu Pro Phe Arg Met Phe Tyr Tyr Ala Lys Asp Glu Trp
          85          90          95
Pro Phe Gly Glu Tyr Phe Cys Gln Ile Leu Gly Ala Leu Thr Val Phe
          100          105          110
Tyr Pro Ser Ile Ala Leu Trp Leu Leu Ala Phe Ile Ser Ala Asp Arg
          115          120          125
Tyr Met Ala Ile Val Gln Pro Lys Tyr Ala Lys Glu Leu Lys Asn Thr
          130          135          140
Cys Lys Ala Val Leu Ala Cys Val Gly Val Trp Ile Met Thr Leu Thr
          145          150          155          160
Thr Thr Thr Pro Leu Leu Leu Leu Tyr Lys Asp Pro Asp Lys Asp Ser
          165          170          175
Thr Pro Ala Thr Cys Leu Lys Ile Ser Asp Ile Ile Tyr Leu Lys Ala
          180          185          190
Val Asn Val Leu Asn Leu Thr Arg Leu Thr Phe Phe Phe Leu Ile Pro
          195          200          205
Leu Phe Ile Met Ile Gly Cys Tyr Leu Val Ile Ile His Asn Leu Leu
          210          215          220
His Gly Arg Thr Ser Lys Leu Lys Pro Lys Val Lys Glu Lys Ser Ile
          225          230          235          240
Arg Ile Ile Ile Thr Leu Leu Val Gln Val Leu Val Cys Phe Met Pro
          245          250          255
Phe His Ile Cys Phe Ala Phe Leu Met Leu Gly Thr Gly Glu Asn Ser
          260          265          270
Tyr Asn Pro Trp Gly Ala Phe Thr Thr Phe Leu Met Asn Leu Ser Thr
          275          280          285
Cys Leu Asp Val Ile Leu Tyr Tyr Ile Val Ser Lys Gln Phe Gln Ala
          290          295          300
Arg Val Ile Ser Val Met Leu Tyr Arg Asn Tyr Leu Arg Ser Met Arg
          305          310          315          320
Arg Lys Ser Phe Arg Ser Gly Ser Leu Arg Ser Leu Ser Asn Ile Asn
          325          330          335
Ser Glu Met Leu
          340

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&lt;210&gt; 3021

&lt;211&gt; 623

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3021

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Glu Glu Phe Cys Thr Trp Ile Ala Val Arg Val Gly Glu Met Glu Thr
 1          5          10          15
Ala Pro Lys Pro Gly Lys Asp Val Pro Pro Lys Lys Asp Lys Leu Gln
          20          25          30
Thr Lys Arg Lys Lys Pro Arg Arg Tyr Trp Glu Glu Glu Thr Val Pro
          35          40          45
Thr Thr Ala Gly Ala Ser Pro Gly Pro Pro Arg Asn Lys Lys Asn Arg
          50          55          60
Glu Leu Arg Pro Gln Arg Pro Lys Asn Ala Tyr Ile Leu Lys Lys Ser

```

|   |     |     |     |
|---|-----|-----|-----|
| 65  | 70  | 75  | 80  |
| Arg Ile Ser Lys Lys Pro Gln Val Pro Lys Lys Pro Arg Glu Trp Lys |     |     |     |
|   | 85  | 90  | 95  |
| Asn Pro Glu Ser Gln Arg Gly Leu Ser Gly Ala Gln Asp Pro Phe Pro |     |     |     |
|   | 100 | 105 | 110 |
| Gly Pro Ala Pro Val Pro Val Glu Val Val Gln Lys Phe Cys Arg Ile |     |     |     |
|   | 115 | 120 | 125 |
| Asp Lys Ser Arg Lys Leu Pro His Ser Lys Ala Lys Thr Arg Ser Arg |     |     |     |
|   | 130 | 135 | 140 |
| Leu Glu Val Ala Glu Ala Glu Glu Glu Thr Ser Ile Lys Ala Ala     |     |     |     |
|   | 145 | 150 | 155 |
| Arg Ser Glu Leu Leu Leu Ala Glu Glu Pro Gly Phe Leu Glu Gly Glu |     |     |     |
|   | 165 | 170 | 175 |
| Asp Gly Glu Asp Thr Ala Lys Ile Cys Gln Ala Asp Ile Val Glu Ala |     |     |     |
|   | 180 | 185 | 190 |
| Val Asp Ile Ala Ser Ala Ala Lys His Phe Asp Leu Asn Leu Arg Gln |     |     |     |
|   | 195 | 200 | 205 |
| Phe Gly Pro Tyr Arg Leu Asn Tyr Ser Arg Thr Gly Arg His Leu Ala |     |     |     |
|   | 210 | 215 | 220 |
| Phe Gly Gly Arg Arg Gly His Val Ala Ala Leu Asp Trp Val Thr Lys |     |     |     |
|   | 225 | 230 | 235 |
| Lys Leu Met Cys Glu Ile Asn Val Met Glu Ala Val Arg Asp Ile Arg |     |     |     |
|   | 245 | 250 | 255 |
| Phe Leu His Ser Glu Ala Leu Leu Ala Val Ala Gln Asn Arg Trp Leu |     |     |     |
|   | 260 | 265 | 270 |
| His Ile Tyr Asp Asn Gln Gly Ile Glu Leu His Cys Ile Arg Arg Cys |     |     |     |
|   | 275 | 280 | 285 |
| Asp Arg Val Thr Arg Leu Glu Phe Leu Pro Phe His Phe Leu Leu Ala |     |     |     |
|   | 290 | 295 | 300 |
| Thr Ala Ser Glu Thr Gly Phe Leu Thr Tyr Leu Asp Val Ser Val Gly |     |     |     |
|   | 305 | 310 | 315 |
| Lys Ile Val Ala Ala Leu Asn Ala Arg Ala Gly Arg Leu Asp Val Met |     |     |     |
|   | 325 | 330 | 335 |
| Ser Gln Asn Pro Tyr Asn Ala Val Ile His Leu Gly His Ser Asn Gly |     |     |     |
|   | 340 | 345 | 350 |
| Thr Val Ser Leu Trp Ser Pro Ala Met Lys Glu Pro Leu Ala Lys Ile |     |     |     |
|   | 355 | 360 | 365 |
| Leu Cys His Arg Gly Gly Val Arg Ala Val Ala Val Asp Ser Thr Gly |     |     |     |
|   | 370 | 375 | 380 |
| Thr Tyr Met Ala Thr Ser Gly Leu Asp His Gln Leu Lys Ile Phe Asp |     |     |     |
|   | 385 | 390 | 395 |
| Leu Arg Gly Thr Tyr Gln Pro Leu Ser Thr Arg Thr Leu Pro His Gly |     |     |     |
|   | 405 | 410 | 415 |
| Ala Gly His Leu Ala Phe Ser Gln Arg Gly Leu Leu Val Ala Gly Met |     |     |     |
|   | 420 | 425 | 430 |
| Gly Asp Val Val Asn Ile Trp Ala Gly Gln Gly Lys Ala Ser Pro Pro |     |     |     |
|   | 435 | 440 | 445 |
| Ser Leu Glu Gln Pro Tyr Leu Thr His Arg Leu Ser Gly Pro Val His |     |     |     |
|   | 450 | 455 | 460 |
| Gly Leu Gln Phe Cys Pro Phe Glu Asp Val Leu Gly Val Gly His Thr |     |     |     |
|   | 465 | 470 | 475 |
| Gly Gly Ile Thr Ser Met Leu Val Pro Gly Ala Gly Glu Pro Asn Phe |     |     |     |
|   | 485 | 490 | 495 |
| Asp Gly Leu Glu Ser Asn Pro Tyr Arg Ser Arg Lys Gln Arg Gln Glu |     |     |     |
|   | 500 | 505 | 510 |
| Trp Glu Val Lys Ala Leu Leu Glu Lys Val Pro Ala Glu Leu Ile Cys |     |     |     |
|   | 515 | 520 | 525 |
| Leu Asp Pro Arg Ala Leu Ala Glu Val Asp Val Ile Ser Leu Glu Gln |     |     |     |
|   | 530 | 535 | 540 |
| Gly Lys Lys Glu Gln Ile Glu Arg Leu Gly Tyr Asp Pro Gln Ala Lys |     |     |     |
|   | 545 | 550 | 555 |
| Ala Pro Phe Gln Pro Lys Pro Lys Gln Lys Gly Arg Ser Ser Thr Ala |     |     |     |
|   | 565 | 570 | 575 |
| Ser Leu Val Lys Arg Lys Arg Lys Val Met Asp Glu Glu His Arg Asp |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Lys | Val | Arg | Gln | Ser | Leu | Gln | Gln | Gln | His | His | Lys | Glu | Ala | Lys | Ala |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Lys | Pro | Thr | Gly | Ala | Arg | Pro | Ser | Ala | Leu | Asp | Arg | Phe | Val | Arg |     |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     | 623 |     |

&lt;210&gt; 3022

&lt;211&gt; 749

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3022

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Ala | Gln | Asp | Ser | Asn | Thr | Ser | Ala | His | Ala | Gln | Arg | Asp | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Glu | Leu | Pro | Ala | Ser | Ser | Ser | Trp | Arg | Ser | Phe | Trp | Pro | Leu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Leu | Ser | Ser | Pro | Pro | Val | Ser | Ala | Val | Glu | Val | Ala | Thr | Glu | Gly |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Asp | Arg | Glu | Val | Ala | Lys | Val | Gly | Gln | Arg | Phe | Cys | Asp | Thr | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Gly | Glu | Leu | Arg | Gln | Ala | Arg | Asp | Arg | Asp | Cys | Cys | Val | Arg | Met |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Ala | Pro | Val | Gly | Arg | Arg | Ser | Pro | Pro | Ser | Pro | Arg | Ser | Ser | Met |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Ala | Val | Ala | Leu | Arg | Asp | Ser | Ala | Gln | Gly | Met | Thr | Phe | Glu | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Ala | Ile | Tyr | Phe | Ser | Gln | Glu | Glu | Trp | Glu | Leu | Leu | Asp | Glu | Ser |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Arg | Phe | Leu | Tyr | Cys | Asp | Val | Met | Leu | Glu | Asn | Phe | Ala | His | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Ser | Leu | Gly | Tyr | Cys | His | Gly | Met | Glu | Asn | Glu | Ala | Ile | Ala | Ser |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Gln | Ser | Val | Ser | Ile | Gln | Val | Arg | Thr | Ser | Lys | Gly | Asn | Thr | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Gln | Lys | Thr | His | Leu | Ser | Glu | Ile | Lys | Met | Cys | Val | Pro | Val | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Asp | Ile | Leu | Pro | Ala | Ala | Glu | His | Gln | Thr | Thr | Ser | Pro | Val | Gln |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Ser | Tyr | Leu | Gly | Ser | Thr | Ser | Met | Arg | Gly | Phe | Cys | Phe | Ser | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Leu | His | Gln | His | Gln | Lys | His | Tyr | Asn | Glu | Glu | Glu | Pro | Trp | Lys |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Lys | Val | Asp | Glu | Ala | Thr | Phe | Val | Thr | Gly | Cys | Arg | Phe | His | Val |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Asn | Tyr | Phe | Thr | Cys | Gly | Glu | Ala | Phe | Pro | Ala | Pro | Thr | Asp | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Gln | His | Glu | Ala | Thr | Pro | Ser | Gly | Glu | Glu | Pro | His | Ser | Ser | Ser |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ser | Lys | His | Ile | Gln | Ala | Phe | Phe | Asn | Ala | Lys | Ser | Tyr | Tyr | Lys | Trp |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gly | Glu | Tyr | Arg | Lys | Ala | Ser | Ser | His | Lys | His | Thr | Leu | Val | Gln | His |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Ser | Val | Cys | Ser | Glu | Gly | Gly | Leu | Tyr | Glu | Cys | Ser | Lys | Cys | Glu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Ala | Phe | Thr | Cys | Lys | Asn | Thr | Leu | Val | Gln | His | Gln | Gln | Ile | His |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Thr | Gly | Gln | Lys | Met | Phe | Glu | Cys | Ser | Glu | Cys | Glu | Glu | Ser | Phe | Ser |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Lys | Lys | Cys | His | Leu | Ile | Leu | His | Lys | Ile | Ile | His | Thr | Gly | Glu | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Tyr | Glu | Cys | Ser | Asp | Arg | Glu | Lys | Ala | Phe | Ile | His | Lys | Ser | Glu |

|                 |   |     |     |     |     |     |
|-----------------|---|-----|-----|-----|-----|-----|
| 385             |   | 390 |     | 395 |     | 400 |
| Phe Ile His His | Gln Arg Arg His Thr Gly Gly Val Arg His Glu Cys |     |     |     |     |     |
|                 | 405   |     | 410 |     | 415 |     |
| Gly Glu Cys Arg | Lys Thr Phe Ser Tyr Lys Ser Asn Leu Ile Glu His |     |     |     |     |     |
|                 | 420   |     | 425 |     | 430 |     |
| Gln Arg Val His | Thr Gly Glu Arg Pro Tyr Glu Cys Gly Glu Cys Gly |     |     |     |     |     |
|                 | 435   |     | 440 |     | 445 |     |
| Lys Ser Phe Arg | Gln Ser Ser Ser Leu Phe Arg His Gln Arg Val His |     |     |     |     |     |
|                 | 450   |     | 455 |     | 460 |     |
| Ser Gly Glu Arg | Pro Tyr Gln Cys Cys Glu Cys Gly Lys Ser Phe Arg |     |     |     |     |     |
| 465             | 470   |     | 475 |     | 480 |     |
| Gln Ile Phe Asn | Leu Ile Arg His Arg Arg Val His Thr Gly Glu Met |     |     |     |     |     |
|                 | 485   |     | 490 |     | 495 |     |
| Pro Tyr Gln Cys | Ser Asp Cys Gly Lys Ser Phe Ser Cys Lys Ser Glu |     |     |     |     |     |
|                 | 500   |     | 505 |     | 510 |     |
| Leu Ile Gln His | Gln Arg Ile His Ser Gly Glu Arg Pro Tyr Glu Cys |     |     |     |     |     |
|                 | 515   |     | 520 |     | 525 |     |
| Arg Glu Cys Gly | Lys Ser Phe Arg Gln Phe Ser Asn Leu Ile Arg His |     |     |     |     |     |
|                 | 530   |     | 535 |     | 540 |     |
| Arg Ser Ile His | Thr Gly Asp Arg Pro Tyr Glu Cys Ser Glu Cys Glu |     |     |     |     |     |
| 545             | 550   |     | 555 |     | 560 |     |
| Lys Ser Phe Ser | Arg Lys Phe Ile Leu Ile Gln His Gln Arg Val His |     |     |     |     |     |
|                 | 565   |     | 570 |     | 575 |     |
| Thr Gly Glu Arg | Pro Tyr Glu Cys Ser Glu Cys Gly Lys Ser Phe Thr |     |     |     |     |     |
|                 | 580   |     | 585 |     | 590 |     |
| Arg Lys Ser Asp | Leu Ile Gln His Arg Arg Ile His Thr Gly Thr Arg |     |     |     |     |     |
|                 | 595   |     | 600 |     | 605 |     |
| Pro Tyr Glu Cys | Ser Glu Cys Gly Lys Ser Phe Arg Gln Arg Ser Gly |     |     |     |     |     |
|                 | 610   |     | 615 |     | 620 |     |
| Leu Ile Gln His | Arg Arg Leu His Thr Gly Glu Arg Pro Tyr Glu Cys |     |     |     |     |     |
| 625             | 630   |     | 635 |     | 640 |     |
| Ser Glu Cys Gly | Lys Ser Phe Ser Gln Ser Ala Ser Leu Ile Gln His |     |     |     |     |     |
|                 | 645   |     | 650 |     | 655 |     |
| Gln Arg Val His | Thr Gly Glu Arg Pro Tyr Gln Cys Cys Glu Cys Gly |     |     |     |     |     |
|                 | 660   |     | 665 |     | 670 |     |
| Lys Ser Phe Arg | Gln Ile Phe Asn Leu Ile Arg His Arg Arg Val His |     |     |     |     |     |
|                 | 675   |     | 680 |     | 685 |     |
| Thr Gly Glu Met | Pro Tyr Gln Cys Ser Asp Cys Gly Lys Ser Phe Ser |     |     |     |     |     |
|                 | 690   |     | 695 |     | 700 |     |
| Cys Lys Ser Glu | Leu Ile Gln His Arg Arg Ile His Ser Gly Glu Arg |     |     |     |     |     |
| 705             | 710   |     | 715 |     | 720 |     |
| Pro Tyr Glu Cys | Ser Glu Cys Gly Lys Ser Phe Ser Arg Lys Ser Asn |     |     |     |     |     |
|                 | 725   |     | 730 |     | 735 |     |
| Leu Ile Arg His | Arg Arg Val His Thr Glu Glu Arg Pro             |     |     |     |     |     |
|                 | 740   |     | 745 |     | 749 |     |

&lt;210&gt; 3023

&lt;211&gt; 838

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3023

|                 |   |
|-----------------|---|
| Ala Ala Gly Ala | Leu Arg Cys Leu Ala Ala Phe Pro Arg Ala Glu Pro |
| 1               | 5 10 15   |
| Ala Ser Arg Gly | Arg Gln Ser Ser Pro Ala Arg Ala Cys Ala Ala Ser |
|                 | 20 25 30  |
| Arg Ala Glu Arg | Ala Thr Ala Ala Met Ala His Arg Cys Leu Arg     |
|                 | 35 40 45  |
| Leu Trp Gly Arg | Gly Gly Cys Trp Pro Arg Gly Leu Gln Gln Leu Leu |
|                 | 50 55 60  |
| Val Pro Gly Gly | Val Gly Pro Gly Glu Gln Pro Cys Leu Arg Thr Leu |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Tyr | Arg | Phe | Val | Thr | Thr | Gln | Ala | Arg | Ala | Ser | Arg | Asn | Ser | Leu | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Asp | Ile | Ile | Ala | Ala | Tyr | Gln | Arg | Phe | Cys | Ser | Arg | Pro | Pro | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Phe | Gly | Lys | Tyr | Phe | Pro | Asn | Gly | Lys | Asn | Gly | Lys | Lys | Ala | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Pro | Lys | Glu | Val | Met | Gly | Glu | Lys | Lys | Glu | Ser | Lys | Pro | Ala | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Thr | Arg | Ser | Ser | Gly | Gly | Gly | Gly | Gly | Gly | Gly | Gly | Lys | Arg | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |
| Gly | Lys | Lys | Asp | Asp | Ser | His | Trp | Trp | Ser | Arg | Phe | Gln | Lys | Gly | Asp |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Pro | Trp | Asp | Asp | Lys | Asp | Phe | Arg | Met | Phe | Phe | Leu | Trp | Thr | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Leu | Phe | Trp | Gly | Gly | Val | Met | Phe | Tyr | Leu | Leu | Leu | Lys | Arg | Ser | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Glu | Ile | Thr | Trp | Lys | Asp | Phe | Val | Asn | Asn | Tyr | Leu | Ser | Lys | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | Val | Asp | Arg | Leu | Glu | Val | Val | Asn | Lys | Arg | Phe | Val | Arg | Val | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Thr | Pro | Gly | Lys | Thr | Pro | Val | Asp | Gly | Gln | Tyr | Val | Trp | Phe | Asn |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ile | Gly | Ser | Val | Asp | Thr | Phe | Glu | Arg | Asn | Leu | Glu | Thr | Leu | Gln | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |
| Glu | Leu | Gly | Ile | Glu | Gly | Glu | Asn | Arg | Val | Pro | Val | Val | Tyr | Ile | Ala |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Ser | Asp | Gly | Ser | Phe | Leu | Leu | Ser | Met | Leu | Pro | Thr | Val | Leu | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ile | Ala | Phe | Leu | Leu | Tyr | Thr | Ile | Arg | Arg | Gly | Pro | Ala | Ala | Ile | Gly |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Arg | Thr | Gly | Arg | Gly | Met | Gly | Gly | Leu | Phe | Ser | Val | Gly | Glu | Thr | Thr |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ala | Lys | Val | Leu | Lys | Asp | Glu | Ile | Asp | Val | Lys | Phe | Lys | Asp | Val | Ala |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gly | Cys | Glu | Glu | Ala | Lys | Leu | Glu | Ile | Met | Glu | Phe | Val | Asn | Phe | Leu |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Lys | Asn | Pro | Lys | Gln | Tyr | Gln | Asp | Leu | Gly | Ala | Lys | Ile | Pro | Lys | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |
| Ala | Ile | Leu | Thr | Gly | Pro | Pro | Gly | Thr | Gly | Lys | Thr | Leu | Leu | Ala | Lys |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ala | Thr | Ala | Gly | Glu | Ala | Asn | Val | Pro | Phe | Ile | Thr | Val | Ser | Gly | Ser |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Glu | Phe | Leu | Glu | Met | Phe | Val | Gly | Val | Gly | Pro | Ala | Arg | Val | Arg | Asp |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     |     | 430 |     |     |
| Leu | Phe | Ala | Leu | Ala | Arg | Lys | Asn | Ala | Pro | Cys | Ile | Leu | Phe | Ile | Asp |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Glu | Ile | Asp | Ala | Val | Gly | Arg | Lys | Arg | Gly | Arg | Gly | Asn | Phe | Gly | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gln | Ser | Glu | Gln | Glu | Asn | Thr | Leu | Asn | Gln | Leu | Leu | Val | Glu | Met | Asp |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Gly | Phe | Asn | Thr | Thr | Thr | Asn | Val | Val | Ile | Leu | Ala | Gly | Thr | Asn | Arg |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Pro | Asp | Ile | Leu | Asp | Pro | Ala | Leu | Leu | Arg | Pro | Gly | Arg | Phe | Asp | Arg |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Gln | Ile | Phe | Ile | Gly | Pro | Pro | Asp | Ile | Lys | Gly | Arg | Ala | Ser | Ile | Phe |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Lys | Val | His | Leu | Arg | Pro | Leu | Lys | Leu | Asp | Ser | Thr | Leu | Glu | Lys | Asp |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Lys | Leu | Ala | Arg | Lys | Leu | Ala | Ser | Leu | Thr | Pro | Gly | Phe | Ser | Gly | Ala |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Asp | Val | Ala | Asn | Val | Cys | Asn | Glu | Ala | Ala | Leu | Ile | Ala | Ala | Arg | His |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Leu | Ser | Asp | Ser | Ile | Asn | Gln | Lys | His | Phe | Glu | Gln | Ala | Ile | Glu | Arg |

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<210> 3024
<211> 394
<212> PRT
<213> Homo sapiens
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| <400> 3024 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Leu        | Arg | Ala | Cys | Ser | Leu | Pro | Ser | Met | Ser | Ala | Leu | Glu | Lys | Ser | Met |  |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| His        | Leu | Gly | Arg | Leu | Pro | Ser | Arg | Pro | Pro | Leu | Pro | Gly | Ser | Gly | Gly |  |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ser        | Gln | Ser | Gly | Ala | Lys | Met | Arg | Met | Gly | Pro | Gly | Arg | Lys | Arg | Asp |  |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Phe        | Ser | Pro | Val | Pro | Trp | Ser | Gln | Tyr | Phe | Glu | Ser | Met | Glu | Asp | Val |  |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Glu        | Val | Glu | Asn | Glu | Thr | Gly | Lys | Asp | Thr | Phe | Arg | Val | Tyr | Lys | Ser |  |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Gly        | Ser | Glu | Gly | Pro | Val | Leu | Leu | Leu | Leu | His | Gly | Gly | Gly | His | Ser |  |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Ala        | Leu | Ser | Trp | Ala | Val | Phe | Thr | Ala | Ala | Ile | Ile | Ser | Arg | Val | Gln |  |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Cys        | Arg | Ile | Val | Ala | Leu | Asp | Leu | Arg | Ser | His | Gly | Glu | Thr | Lys | Val |  |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Lys        | Asn | Pro | Glu | Asp | Leu | Ser | Ala | Glu | Thr | Met | Ala | Lys | Asp | Val | Gly |  |
|            | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Asn        | Val | Val | Glu | Ala | Met | Tyr | Gly | Asp | Leu | Pro | Pro | Pro | Ile | Met | Leu |  |
| 145        |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Ile        | Gly | His | Ser | Met | Gly | Gly | Ala | Ile | Ala | Val | His | Thr | Ala | Ser | Ser |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Asn | Leu | Val | Pro | Ser | Leu | Leu | Gly | Leu | Cys | Met | Ile | Asp | Val | Val | Glu |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gly | Thr | Ala | Met | Asp | Ala | Leu | Asn | Ser | Met | Gln | Asn | Phe | Leu | Arg | Gly |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Arg | Pro | Lys | Thr | Phe | Lys | Ser | Leu | Glu | Asn | Ala | Ile | Glu | Trp | Ser | Val |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Ser | Gly | Gln | Ile | Arg | Asn | Leu | Glu | Ser | Ala | Arg | Val | Ser | Met | Val |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Gln | Val | Lys | Gln | Cys | Glu | Gly | Ile | Thr | Ser | Pro | Glu | Gly | Ser | Lys |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Ser | Ile | Val | Glu | Gly | Ile | Ile | Glu | Glu | Glu | Glu | Glu | Asp | Glu | Glu | Gly |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Ser | Glu | Ser | Ile | Ser | Lys | Arg | Lys | Lys | Glu | Asp | Asp | Met | Glu | Thr | Lys |  |  |
|     | 275 |     |     |     | 280 |     |     |     |     |     |     | 285 |     |     |     |  |  |
| Lys | Asp | His | Pro | Tyr | Thr | Trp | Arg | Ile | Glu | Leu | Ala | Lys | Thr | Glu | Lys |  |  |
| 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Tyr | Trp | Asp | Gly | Trp | Phe | Arg | Gly | Leu | Ser | Asn | Leu | Phe | Leu | Ser | Cys |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Pro | Ile | Pro | Lys | Leu | Leu | Leu | Leu | Ala | Gly | Val | Asp | Arg | Leu | Asp | Lys |  |  |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Asp | Leu | Thr | Ile | Gly | Gln | Met | Gln | Gly | Lys | Phe | Gln | Met | Gln | Val | Leu |  |  |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |  |  |
| Pro | Gln | Cys | Gly | His | Ala | Val | His | Glu | Asp | Ala | Pro | Asp | Lys | Val | Ala |  |  |
|     | 355 |     |     |     | 360 |     |     |     |     |     |     | 365 |     |     |     |  |  |
| Glu | Ala | Val | Ala | Thr | Phe | Leu | Ile | Arg | His | Arg | Phe | Ala | Glu | Pro | Ile |  |  |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |  |  |
| Gly | Gly | Phe | Gln | Cys | Val | Phe | Pro | Gly | Cys |     |     |     |     |     |     |  |  |
| 385 |     |     |     | 390 |     |     |     | 394 |     |     |     |     |     |     |     |  |  |

<210> 3025  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 3025  
 Tyr His Gly Gly Gln Arg Gly Arg Ala Gly Gly Ser Phe Arg Ser Val  
 1 5 10 15  
 Gln Gly Trp Gly Gly Gln Leu Arg Asn Pro Phe Arg Thr Ser Lys Ser  
 20 25 30  
 Leu Ser Trp Lys Gly Leu Ser Ser Leu Leu Phe Pro Leu Tyr Asn Leu  
 35 40 45  
 Gln Met Gly Arg Pro Arg Asp Arg Lys Glu Leu Gly Arg Gly His Ser  
 50 55 60  
 Pro Pro His Leu Glu Gly Pro His Met Leu Pro Ser Gly Ala Ala Arg  
 65 70 75 80  
 Trp Arg Trp Leu Glu Ala Pro Val Leu Val Leu Glu Pro Leu Val Leu  
 85 90 95  
 Arg Pro Ala Ala Ala Pro Thr Pro  
 100 104

<210> 3026  
 <211> 360  
 <212> PRT  
 <213> Homo sapiens

<400> 3026  
 Ala Lys Val Pro Gln Ser Thr Arg Glu Glu Lys Arg Glu Asn Gly Leu

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      1           5           10           15
Glu Ala Arg Ser Pro Ala Ile Asn Leu Met Gly Phe Asn Val Glu Glu
      20           25           30
Met Tyr Glu Ala His Ala Trp Ile Gln Arg Ile Leu Ser Leu Gln Asn
      35           40           45
His His Ile Ile Glu Asn Asn His Ile Leu Tyr Leu Gly Arg Lys Glu
      50           55           60
His Asp Ile Leu Ser Gln Leu Gln Lys Thr Ser Ser Val Ser Ile Thr
      65           70           75           80
Glu Ile Ile Ser Pro Gly Arg Thr Glu Leu Glu Ile Glu Gly Ala Arg
      85           90           95
Ala Asp Leu Ile Glu Val Val Met Asn Ile Glu Asp Met Leu Cys Lys
      100          105          110
Val Gln Glu Glu Met Ala Arg Lys Lys Glu Arg Gly Leu Trp Arg Ser
      115          120          125
Leu Gly Gln Trp Thr Ile Gln Gln Gln Lys Thr Gln Asp Glu Met Lys
      130          135          140
Glu Asn Ile Ile Phe Leu Lys Cys Pro Val Pro Pro Thr Gln Glu Leu
      145          150          155          160
Leu Asp Gln Lys Lys Gln Phe Glu Lys Cys Gly Leu Gln Val Leu Lys
      165          170          175
Val Glu Lys Ile Asp Asn Glu Val Leu Met Ala Ala Phe Gln Arg Lys
      180          185          190
Lys Lys Met Met Glu Glu Lys Leu His Arg Gln Pro Val Ser His Arg
      195          200          205
Leu Phe Gln Gln Val Pro Tyr Gln Phe Cys Asn Val Val Cys Arg Val
      210          215          220
Gly Phe Gln Arg Met Tyr Ser Thr Pro Cys Asp Pro Lys Tyr Gly Ala
      225          230          235          240
Gly Ile Tyr Phe Thr Lys Asn Leu Lys Asn Leu Ala Glu Lys Ala Lys
      245          250          255
Lys Ile Ser Ala Ala Asp Lys Leu Ile Tyr Val Phe Glu Ala Glu Val
      260          265          270
Leu Thr Gly Phe Phe Cys Gln Gly His Pro Leu Asn Ile Val Pro Pro
      275          280          285
Pro Leu Ser Pro Gly Ala Ile Asp Gly His Asp Ser Val Val Asp Asn
      290          295          300
Val Ser Ser Pro Glu Thr Phe Val Ile Phe Ser Gly Met Gln Ala Ile
      305          310          315          320
Pro Gln Tyr Leu Trp Thr Cys Thr Gln Glu Tyr Val Gln Ser Gln Asp
      325          330          335
Tyr Ser Ser Gly Pro Met Arg Pro Phe Ala Gln His Pro Trp Arg Gly
      340          345          350
Phe Ala Ser Gly Ser Pro Val Asp
      355          360

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&lt;210&gt; 3027

&lt;211&gt; 174

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3027

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Pro Phe His Leu Gly Ala Ser Ser Asn Thr Phe Arg Leu Gln Val Gln
  1           5           10           15
Thr Gln Glu Ser Lys Ala Gln Lys Glu Val Lys Met Gly Phe Ile Phe
      20           25           30
Ser Lys Ser Met Asn Glu Ser Met Lys Asn Gln Lys Glu Phe Met Leu
      35           40           45
Met Asn Ala Arg Leu Gln Leu Glu Arg Gln Leu Ile Met Gln Ser Glu
      50           55           60
Met Arg Glu Arg Gln Met Ala Met Gln Ile Ala Trp Ser Arg Glu Phe

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| Leu | Lys | Tyr | Phe | Gly | Thr | Phe | Phe | Gly | Leu | Ala | Ala | Ile | Ser | Leu | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Gly | Ala | Ile | Lys | Lys | Lys | Lys | Pro | Ala | Phe | Leu | Val | Pro | Ile | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Leu | Ser | Phe | Ile | Leu | Thr | Tyr | Gln | Tyr | Asp | Leu | Gly | Tyr | Gly | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Leu | Glu | Arg | Met | Lys | Gly | Glu | Ala | Glu | Asp | Ile | Leu | Glu | Thr | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Ser | Lys | Leu | Gln | Leu | Pro | Arg | Gly | Met | Ile | Thr | Phe | Glu | Ser | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Lys | Ala | Arg | Lys | Glu | Gln | Ser | Arg | Phe | Phe | Ile | Asp | Lys |     |     |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     | 174 |     |     |

<210> 3028  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 3028

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Val | Gly | Lys | Glu | Pro | Glu | Ser | Ser | Ser | Thr | Trp | Val | Arg | Asp | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Gly | His | Ile | Arg | Ser | Arg | Arg | Ser | Met | Lys | Met | Leu | Trp | Lys | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Asp | Asn | Ile | Lys | Tyr | Glu | Asp | Cys | Glu | Val | Ser | Ala | Thr | Pro | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ser | Ser | Val | Arg | Ser | Gln | Ala | Pro | Ser | Leu | Thr | Leu | Pro | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Leu | Ser | Leu | Gln | Pro | Ala | Ala | Lys | Arg | Gly | Trp | Asp | Lys | Leu | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Ala | Gln | Arg | Pro | Ser | Leu | Gly | Phe | Ala | Arg | Arg | Thr | Arg | Gly | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Cys | Arg | Glu | Arg | Thr | Trp | Met | Leu | Pro | Ser | Leu | Val | Ser | Glu | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | His | Arg | Asp |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 115 | 116 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3029  
 <211> 575  
 <212> PRT  
 <213> Homo sapiens

<400> 3029

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Glu | Gly | Arg | Phe | Gly | Ser | Ser | Cys | Ala | Val | Ala | Ala | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Gly | Phe | Gln | Gly | Leu | Ile | Glu | Cys | Gly | Tyr | Leu | Ala | Val | Asp | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Pro | Ser | Cys | Trp | Thr | Pro | Gly | Gly | Ser | Asn | Pro | Ala | Ala | Pro | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Gln | Ala | Leu | Leu | Pro | Pro | Arg | Leu | Pro | Pro | Thr | Val | Leu | Pro | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gly | Pro | Gly | Leu | Ser | Gly | Glu | Leu | Glu | Met | Phe | Thr | Leu | Pro | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys | Asp | Phe | Arg | Ala | Pro | Thr | Thr | Cys | Leu | Gly | Pro | Thr | Cys | Met | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Leu | Gly | Ser | Ser | His | Gly | Glu | Asp | Leu | Glu | Gly | Glu | Cys | Ser | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Leu | Asp | Gln | Lys | Leu | Pro | Glu | Leu | Arg | Gly | Val | Gly | Asp | Pro | Ala |



|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Met Ile Ser Ser Asn Thr Ser Tyr Leu Ser Ser Arg Gly Arg Met Ile |     |     |
| 130   | 135 | 140 |
| Lys Trp Phe Trp Asp Ser Ala Glu Glu Gly Tyr Arg Thr Tyr His Met |     |     |
| 145   | 150 | 155 |
| Asp Glu Tyr Asp Glu Asp Lys Asn Pro Ser Gly Ile Ile Asn Leu Gly |     | 160 |
|   | 165 | 170 |
| Thr Ser Glu Asn Lys Leu Cys Phe Asp Leu Leu Ser Trp Arg Leu Ser |     | 175 |
|   | 180 | 185 |
| Gln Arg Asp Met Gln Arg Val Glu Pro Ser Leu Leu Gln Tyr Ala Asp |     | 190 |
|   | 195 | 200 |
| Trp Arg Gly His Leu Phe Leu Arg Glu Glu Val Ala Lys Phe Leu Ser |     | 205 |
|   | 210 | 215 |
| Phe Tyr Cys Lys Ser Pro Val Pro Leu Arg Pro Glu Asn Val Val Val |     | 220 |
| 225   | 230 | 235 |
| Leu Asn Gly Gly Ala Ser Leu Phe Ser Ala Leu Ala Thr Val Leu Cys |     | 240 |
|   | 245 | 250 |
| Glu Ala Gly Glu Ala Phe Leu Ile Pro Thr Pro Tyr Tyr Gly Ala Ile |     | 255 |
|   | 260 | 265 |
| Thr Gln His Val Cys Leu Tyr Gly Asn Ile Arg Leu Ala Tyr Val Tyr |     | 270 |
|   | 275 | 280 |
| Leu Asp Ser Glu Val Thr Gly Leu Asp Thr Arg Pro Phe Gln Leu Thr |     | 285 |
|   | 290 | 295 |
| Val Glu Lys Leu Glu Met Ala Leu Arg Glu Ala His Ser Glu Gly Val |     | 300 |
| 305   | 310 | 315 |
| Lys Val Lys Gly Leu Ile Leu Ile Ser Pro Gln Asn Pro Leu Gly Asp |     | 320 |
|   | 325 | 330 |
| Val Tyr Ser Pro Glu Glu Leu Gln Glu Tyr Leu Val Phe Ala Lys Arg |     | 335 |
|   | 340 | 345 |
| His Arg Leu His Val Ile Val Asp Glu Val Tyr Met Leu Ser Val Phe |     | 350 |
|   | 355 | 360 |
| Glu Lys Ser Val Gly Tyr Arg Ser Val Leu Ser Leu Glu Arg Leu Pro |     | 365 |
|   | 370 | 375 |
| Asp Pro Gln Arg Thr His Val Met Trp Ala Thr Ser Lys Asp Phe Gly |     | 380 |
| 385   | 390 | 395 |
| Met Ser Gly Leu Arg Phe Gly Thr Leu Tyr Thr Glu Asn Gln Asp Val |     | 400 |
|   | 405 | 410 |
| Ala Thr Ala Val Ala Ser Leu Cys Arg Tyr His Gly Leu Ser Gly Leu |     | 415 |
|   | 420 | 425 |
| Val Gln Tyr Gln Met Ala Gln Leu Leu Arg Asp Arg Asp Trp Ile Asn |     | 430 |
|   | 435 | 440 |
| Gln Val Tyr Leu Pro Glu Asn His Ala Arg Leu Lys Ala Ala His Thr |     | 445 |
|   | 450 | 455 |
| Tyr Val Ser Glu Glu Leu Arg Ala Leu Gly Ile Pro Phe Leu Ser Arg |     | 460 |
| 465   | 470 | 475 |
| Gly Ala Gly Phe Phe Ile Trp Val Asp Leu Arg Lys Tyr Leu Leu Lys |     | 480 |
|   | 485 | 490 |
| Gly Thr Phe Glu Glu Glu Met Leu Leu Trp Arg Arg Phe Leu Asp Asn |     | 495 |
|   | 500 | 505 |
| Lys Val Leu Leu Ser Phe Gly Lys Ala Phe Glu Cys Lys Glu Pro Gly |     | 510 |
|   | 515 | 520 |
| Trp Phe Arg Phe Val Phe Ser Asp Gln Val His Arg Leu Cys Leu Gly |     | 525 |
|   | 530 | 535 |
| Met Gln Arg Val Gln Gln Val Leu Ala Gly Lys Ser Gln Val Ala Glu |     | 540 |
| 545   | 550 | 555 |
| Asp Pro Arg Pro Ser Gln Ser Gln Glu Pro Ser Asp Gln Arg Arg     |     | 560 |
|   | 565 | 570 |
|   |     | 575 |

&lt;210&gt; 3030

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3030

```

Pro Trp Leu Pro Trp Ser Asp Gly Arg Ala Ala Arg Ser Ser Arg Lys
 1           5           10           15
Cys Pro Arg Ser Arg Phe Pro Val Gln Val Gly Lys Met Ala Val Ser
          20           25           30
Thr Val Phe Ser Thr Ser Ser Leu Met Leu Ala Leu Ser Arg His Ser
          35           40           45
Leu Leu Ser Pro Leu Leu Ser Val Thr Ser Phe Arg Arg Phe Tyr Arg
          50           55           60
Gly Asp Ser Pro Thr Asp Ser Gln Lys Asp Met Ile Glu Ile Pro Leu
 65           70           75           80
Pro Pro Trp Gln Glu Arg Thr Asp Glu Ser Ile Glu Thr Lys Arg Ala
          85           90           95
Arg Leu Leu Tyr Glu Ser Arg Lys Arg Gly Met Leu Glu Asn Cys Ile
          100          105          110
Leu Leu Ser Leu Phe Ala Lys Glu His Leu Gln His Met Thr Glu Lys
          115          120          125
Gln Leu Asn Leu Tyr Asp Arg Leu Ile Asn Glu Pro Ser Asn Asp Trp
 130          135          140
Asp Ile Tyr Tyr Trp Ala Thr Glu Ala Lys Pro Ala Pro Glu Ile Phe
 145          150          155          160
Glu Asn Glu Val Met Ala Leu Leu Arg Asp Phe Ala Lys Asn Lys Asn
          165          170          175
Lys Glu Gln Arg Leu Arg Ala Pro Asp Leu Glu Tyr Leu Phe Glu Lys
          180          185          190
Pro Arg
 194

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&lt;210&gt; 3031

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3031

```

Ser Leu Trp Pro Trp Ile Leu Met Asp Asp Ser Leu Met Gln Ile Ser
 1           5           10           15
Leu Gln Leu Leu Cys Val Tyr Thr Ala Asn Phe Pro Asn Gly Cys Ser
          20           25           30
Ser Leu Cys Trp Ser Ser Cys Gly Gln His Pro Val Gln Ala Thr His
          35           40           45
Arg Gly Ala Val Ser Asn Ser Leu Met Leu Cys Ile Leu Lys Leu Ala
          50           55           60
Ser Gln Met Pro Leu Glu Asn Thr Thr Val Gln Gln Met Val Phe Met
 65           70           75           80
Leu Leu Ser Asn Leu Ala Leu Ser His Asp Cys Lys Gly Val Ile Gln
          85           90           95
Lys Ser Asn Phe Leu Gln Asn Phe Leu Ser Leu Ala Leu Pro Lys Gly
          100          105          110
Gly Asn Lys His Leu Ser Asn Leu Thr Ile Leu Trp Leu Lys Leu Leu
          115          120          125
Leu Asn Ile Ser Ser Gly Glu Asp Gly Gln Gln Met Ile Leu Arg Leu
 130          135          140
Asp Gly Cys Leu Asp Leu Leu Thr Glu Met Ser Lys Tyr Lys His Lys
 145          150          155          160
Ser Ser Pro Leu Leu Pro Leu Leu Ile Phe His Asn Val Cys Phe Ser
          165          170          175
Pro Ala Asn Lys Pro Lys Ile Leu Ala Asn Glu Lys Val Ile Thr Val
          180          185          190
Leu Ala Ala Cys Leu Glu Ser Glu Asn Gln Asn Ala Gln Arg Ile Gly

```

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Ala Ala Ala Leu Trp Ala Leu Ile Tyr Asn Tyr Gln Lys Ala Lys Thr |     |     |
| 210   | 215 | 220 |
| Ala Leu Lys Ser Pro Ser Val Lys Arg Arg Val Asp Glu Ala Tyr Ser |     |     |
| 225   | 230 | 235 |
| Leu Ala Lys Lys Thr Phe Pro Asn Ser Glu Ala Asn Pro Leu Asn Ala |     |     |
| 245   | 250 | 255 |
| Tyr Tyr Leu Lys Cys Leu Glu Asn Leu Val Gln Leu Leu Asn Ser Ser |     |     |
| 260   | 265 | 270 |
|   |     | 272 |

<210> 3032  
 <211> 413  
 <212> PRT  
 <213> Homo sapiens

<400> 3032

|   |     |
|---|-----|
| Gly Ile Ser Gly Arg Pro Pro Arg Pro Ala Lys Arg Arg Met Gly Lys |     |
| 1   | 15  |
| Asn Pro Val Arg Pro Pro Arg Ala Leu Pro Pro Val Pro Ser Gln Asp |     |
| 20  | 30  |
| Asp Ile Pro Leu Ser Arg Pro Lys Lys Lys Lys Pro Arg Thr Lys Asn |     |
| 35  | 45  |
| Thr Pro Ala Ser Ala Ser Leu Glu Gly Leu Ala Gln Thr Ala Gly Arg |     |
| 50  | 60  |
| Arg Pro Ser Glu Gly Asn Glu Pro Ser Thr Lys Glu Leu Lys Glu His |     |
| 65  | 80  |
| Pro Glu Ala Pro Val Gln Arg Arg Gln Lys Lys Thr Arg Leu Pro Leu |     |
| 85  | 95  |
| Glu Leu Glu Thr Ser Ser Thr Gln Lys Lys Ser Ser Ser Ser Ser Leu |     |
| 100   | 110 |
| Leu Arg Asn Glu Asn Gly Ile Asp Ala Glu Pro Ala Glu Glu Ala Val |     |
| 115   | 125 |
| Ile Gln Lys Pro Arg Arg Lys Thr Lys Lys Thr Gln Pro Ala Glu Leu |     |
| 130   | 140 |
| Gln Tyr Ala Asn Glu Leu Gly Val Glu Asp Glu Asp Ile Ile Thr Asp |     |
| 145   | 160 |
| Glu Gln Thr Thr Val Glu Gln Gln Ser Val Phe Thr Ala Pro Thr Gly |     |
| 165   | 175 |
| Ile Ser Gln Pro Val Gly Lys Val Phe Val Glu Lys Ser Arg Arg Phe |     |
| 180   | 190 |
| Gln Ala Ala Asp Arg Ser Glu Leu Ile Lys Thr Thr Glu Asn Ile Asp |     |
| 195   | 205 |
| Val Ser Met Asp Val Lys Pro Ser Trp Thr Thr Arg Asp Val Ala Leu |     |
| 210   | 220 |
| Thr Val His Arg Ala Phe Arg Met Ile Gly Leu Phe Ser His Gly Phe |     |
| 225   | 240 |
| Leu Ala Gly Cys Ala Val Trp Asn Ile Val Val Ile Tyr Val Leu Ala |     |
| 245   | 255 |
| Gly Asp Gln Leu Ser Asn Leu Ser Asn Leu Leu Gln Gln Tyr Lys Thr |     |
| 260   | 270 |
| Leu Ala Tyr Pro Phe Gln Ser Leu Leu Tyr Leu Leu Leu Ala Leu Ser |     |
| 275   | 285 |
| Thr Ile Ser Ala Phe Asp Arg Ile Asp Phe Ala Lys Ile Ser Val Ala |     |
| 290   | 300 |
| Ile Arg Asn Phe Leu Ala Leu Asp Pro Thr Ala Leu Ala Ser Phe Leu |     |
| 305   | 320 |
| Tyr Phe Thr Ala Leu Ile Leu Ser Leu Ser Gln Gln Met Thr Ser Asp |     |
| 325   | 335 |
| Arg Ile His Leu Tyr Thr Pro Ser Ser Val Asn Gly Ser Leu Trp Glu |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Ala | Gly | Ile | Glu | Glu | Gln | Ile | Leu | Gln | Pro | Trp | Ile | Val | Val | Asn | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Val | Ala | Leu | Leu | Val | Gly | Leu | Ser | Trp | Leu | Phe | Leu | Ser | Tyr | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Gly | Met | Asp | Leu | Ser | Glu | Glu | Leu | Met | Phe | Ser | Ser | Glu | Val | Glu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Glu | Tyr | Pro | Asp | Lys | Glu | Lys | Glu | Ile | Lys | Ala | Ser | Ser |     |     |     |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     | 413 |     |     |     |

&lt;210&gt; 3033

&lt;211&gt; 477

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3033

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ala | Thr | Ser | Gly | Gly | Ile | Trp | Leu | Arg | Arg | Lys | Trp | Arg | Cys | His |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Trp | Pro | Arg | Pro | Leu | Pro | Gln | Ser | Cys | Val | Gly | Thr | Glu | Gly | Gly | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Val | Arg | Asp | Thr | Ser | Ser | Arg | Ile | Ala | Lys | Gly | Gly | Val | Asp | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Lys | Met | Ser | Leu | His | Gly | Ala | Ser | Gly | Gly | His | Glu | Arg | Ser | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Arg | Arg | Arg | Ser | Ser | Asp | Arg | Ser | Arg | Asp | Ser | Ser | His | Glu | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Glu | Ser | Gln | Leu | Thr | Pro | Cys | Ile | Arg | Asn | Val | Thr | Ser | Pro | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Gln | His | His | Val | Glu | Arg | Glu | Lys | Asp | His | Ser | Ser | Ser | Arg | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Ser | Pro | Arg | Pro | Gln | Lys | Ala | Ser | Pro | Asn | Gly | Ser | Ile | Ser | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gly | Asn | Ser | Ser | Arg | Asn | Ser | Ser | Gln | Ser | Ser | Ser | Asp | Gly | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Lys | Thr | Ala | Gly | Glu | Met | Val | Phe | Val | Tyr | Glu | Asn | Ala | Lys | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Ala | Arg | Asn | Ile | Arg | Thr | Ser | Glu | Arg | Val | Thr | Leu | Ile | Val | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Asn | Thr | Arg | Phe | Val | Val | Asp | Pro | Ser | Ile | Phe | Thr | Ala | Gln | Pro | Asn |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Met | Leu | Gly | Arg | Met | Phe | Gly | Ser | Gly | Arg | Glu | His | Asn | Phe | Thr |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Arg | Pro | Asn | Glu | Lys | Gly | Glu | Tyr | Glu | Val | Ala | Glu | Gly | Ile | Gly | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Val | Phe | Arg | Ala | Ile | Leu | Asp | Tyr | Tyr | Lys | Thr | Gly | Ile | Ile | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Cys | Pro | Asp | Gly | Ile | Ser | Ile | Pro | Glu | Leu | Arg | Glu | Ala | Cys | Asp | Tyr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Leu | Cys | Ile | Ser | Phe | Glu | Tyr | Ser | Thr | Ile | Lys | Cys | Arg | Asp | Leu | Ser |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Leu | Met | His | Glu | Leu | Ser | Asn | Asp | Gly | Ala | Arg | Arg | Gln | Phe | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Phe | Tyr | Leu | Glu | Glu | Met | Ile | Leu | Pro | Leu | Met | Val | Ala | Ser | Ala | Gln |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Gly | Glu | Arg | Glu | Cys | His | Ile | Val | Val | Leu | Thr | Asp | Asp | Asp | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Asp | Trp | Asp | Glu | Glu | Tyr | Pro | Pro | Gln | Met | Gly | Glu | Glu | Tyr | Ser |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gln | Ile | Ile | Tyr | Ser | Thr | Lys | Leu | Tyr | Arg | Phe | Phe | Lys | Tyr | Ile | Glu |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Asn | Arg | Asp | Val | Ala | Lys | Ser | Val | Leu | Lys | Glu | Arg | Gly | Leu | Lys | Lys |

```
<210> 3034
<211> 656
<212> PRT
<213> Homo sapiens
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4706



|   |     |     |  |     |     |         |
|---|-----|-----|--|-----|-----|---------|
| 305   |     | 310 |  | 315 |     | 320     |
| Ser Asp Thr Glu Asn Gln Asn Asn Lys Ser Val Lys Tyr Thr Thr Asn |     |     |  |     |     |         |
|   | 325 |     |  | 330 |     | 335     |
| Leu Val Ile Arg Glu Ser Gly Glu Leu Glu Ser Thr Leu Glu Leu Gln |     |     |  |     |     |         |
|   | 340 |     |  | 345 |     | 350     |
| Glu Asn Gly Leu Ala Gly Leu Ser Ala Ser Ser Ile Val Glu Gln Gln |     |     |  |     |     |         |
|   | 355 |     |  | 360 |     | 365     |
| Leu Pro Leu Arg Arg Asn Ser His Leu Glu Glu Ser Phe Thr Ser Thr |     |     |  |     |     |         |
|   | 370 |     |  | 375 |     | 380     |
| Glu Glu Ser Ser Glu Glu Asn Val Asn Phe Leu Gly Gln Thr Glu Ala |     |     |  |     |     |         |
| 385   |     | 390 |  |     | 395 | 400     |
| Gln Tyr His Leu Met Leu His Ile Gln Met Gln Leu Cys Glu Leu Ser |     |     |  |     |     |         |
|   | 405 |     |  | 410 |     | 415     |
| Leu Trp Asp Trp Ile Val Glu Arg Asn Lys Arg Gly Arg Glu Tyr Val |     |     |  |     |     |         |
|   | 420 |     |  | 425 |     | 430     |
| Asp Glu Ser Ala Cys Pro Tyr Val Met Ala Asn Val Ala Thr Lys Ile |     |     |  |     |     |         |
|   | 435 |     |  | 440 |     | 445     |
| Phe Gln Glu Leu Val Glu Gly Val Phe Tyr Ile His Asn Met Gly Ile |     |     |  |     |     |         |
|   | 450 |     |  | 455 |     | 460     |
| Val His Arg Asp Leu Lys Pro Arg Asn Ile Phe Leu His Gly Pro Asp |     |     |  |     |     |         |
| 465   |     | 470 |  |     | 475 | 480     |
| Gln Gln Val Lys Ile Gly Asp Phe Gly Leu Ala Cys Thr Asp Ile Leu |     |     |  |     |     |         |
|   | 485 |     |  | 490 |     | 495     |
| Gln Lys Asn Thr Asp Trp Thr Asn Arg Asn Gly Lys Arg Thr Pro Thr |     |     |  |     |     |         |
|   | 500 |     |  | 505 |     | 510     |
| His Thr Ser Arg Val Gly Thr Cys Leu Tyr Ala Ser Pro Glu Gln Leu |     |     |  |     |     |         |
|   | 515 |     |  | 520 |     | 525     |
| Glu Gly Ser Glu Tyr Asp Ala Lys Ser Asp Met Tyr Ser Leu Gly Val |     |     |  |     |     |         |
|   | 530 |     |  | 535 |     | 540     |
| Val Leu Leu Glu Leu Phe Gln Pro Phe Gly Thr Glu Met Glu Arg Ala |     |     |  |     |     |         |
| 545   |     | 550 |  |     | 555 | 560     |
| Glu Val Leu Thr Gly Leu Arg Thr Gly Gln Leu Pro Glu Ser Leu Arg |     |     |  |     |     |         |
|   | 565 |     |  | 570 |     | 575     |
| Lys Arg Cys Pro Val Gln Ala Lys Tyr Ile Gln His Leu Thr Arg Arg |     |     |  |     |     |         |
|   | 580 |     |  | 585 |     | 590     |
| Asn Ser Ser Gln Arg Pro Ser Ala Ile Gln Leu Leu Gln Ser Glu Leu |     |     |  |     |     |         |
|   | 595 |     |  | 600 |     | 605     |
| Phe Gln Asn Ser Gly Asn Val Asn Leu Thr Leu Gln Met Lys Ile Ile |     |     |  |     |     |         |
|   | 610 |     |  | 615 |     | 620     |
| Glu Gln Glu Lys Glu Ile Ala Glu Leu Lys Lys Gln Leu Asn Leu Leu |     |     |  |     |     |         |
| 625   |     | 630 |  |     | 635 | 640     |
| Ser Gln Asp Lys Gly Val Arg Asp Asp Gly Lys Asp Gly Gly Val Gly |     |     |  |     |     |         |
|   | 645 |     |  | 650 |     | 655 656 |

&lt;210&gt; 3035

&lt;211&gt; 354

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3035

|   |    |   |  |  |  |  |    |  |  |  |  |    |  |  |
|---|----|---|--|--|--|--|----|--|--|--|--|----|--|--|
| Lys Leu Ser Cys Pro Cys Ser His Gly Thr Arg Val Thr Ala Val Arg |    |   |  |  |  |  |    |  |  |  |  |    |  |  |
| 1   |    | 5 |  |  |  |  | 10 |  |  |  |  | 15 |  |  |
| Gly Pro Arg Leu Lys Ala Gly Val Gln Trp His Asp Leu Gly Ser Leu |    |   |  |  |  |  |    |  |  |  |  |    |  |  |
|   | 20 |   |  |  |  |  | 25 |  |  |  |  | 30 |  |  |
| Gln Pro Pro Pro Ser Gly Leu Lys Gln Ser Ser His Leu Ser Leu Ser |    |   |  |  |  |  |    |  |  |  |  |    |  |  |
|   | 35 |   |  |  |  |  | 40 |  |  |  |  | 45 |  |  |
| Ser Ser Trp Asp Phe Arg His Ala Pro Thr His Pro Glu Thr Tyr Thr |    |   |  |  |  |  |    |  |  |  |  |    |  |  |
|   | 50 |   |  |  |  |  | 55 |  |  |  |  | 60 |  |  |
| Cys Pro Lys Met Ile Glu Met Glu Gln Ala Glu Ala Gln Leu Ala Glu |    |   |  |  |  |  |    |  |  |  |  |    |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80      |
| Leu | Asp | Leu | Leu | Ala | Ser | Met | Phe | Pro | Gly | Glu | Asn | Glu | Leu | Ile Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95      |
| Asn | Asp | Gln | Leu | Ala | Val | Ala | Glu | Leu | Lys | Asp | Cys | Ile | Glu | Lys Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |         |
| Thr | Met | Glu | Gly | Arg | Ser | Ser | Lys | Val | Tyr | Phe | Thr | Ile | Asn | Met Asn |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |         |
| Leu | Asp | Val | Ser | Asp | Glu | Lys | Met | Ala | Met | Phe | Ser | Leu | Ala | Cys Ile |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |         |
| Leu | Pro | Phe | Lys | Tyr | Pro | Ala | Val | Leu | Pro | Glu | Ile | Thr | Val | Arg Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160     |
| Val | Leu | Leu | Ser | Arg | Ser | Gln | Gln | Thr | Gln | Leu | Asn | Thr | Asp | Leu Thr |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175     |
| Ala | Phe | Leu | Gln | Lys | His | Cys | His | Gly | Asp | Val | Cys | Ile | Leu | Asn Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |         |
| Thr | Glu | Trp | Val | Arg | Glu | His | Ala | Ser | Gly | Tyr | Val | Ser | Arg | Asp Thr |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |         |
| Ser | Ser | Ser | Pro | Thr | Thr | Gly | Ser | Thr | Val | Gln | Ser | Val | Asp | Leu Ile |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |         |
| Phe | Thr | Arg | Leu | Trp | Ile | Tyr | Ser | His | His | Ile | Tyr | Asn | Lys | Cys Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240     |
| Arg | Lys | Asn | Ile | Leu | Glu | Trp | Ala | Lys | Glu | Leu | Ser | Leu | Ser | Gly Phe |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255     |
| Ser | Met | Pro | Gly | Lys | Pro | Gly | Val | Val | Cys | Val | Glu | Gly | Pro | Gln Ser |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |         |
| Ala | Cys | Glu | Glu | Phe | Trp | Ala | Arg | Leu | Arg | Lys | Leu | Asn | Trp | Lys Arg |
|     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |         |
| Ile | Leu | Ile | Arg | His | Arg | Glu | Asp | Ile | Pro | Phe | Asp | Gly | Thr | Asn Asp |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |         |
| Glu | Thr | Glu | Arg | Gln | Arg | Lys | Phe | Ser | Ile | Phe | Glu | Glu | Lys | Val Phe |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320     |
| Ser | Val | Asn | Gly | Ala | Arg | Gly | Asn | His | Met | Asp | Phe | Gly | Gln | Leu Tyr |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335     |
| Gln | Phe | Leu | Asn | Thr | Lys | Gly | Cys | Gly | Asp | Val | Phe | Gln | Met | Phe Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |         |
| Trp | Val |     |     |     |     |     |     |     |     |     |     |     |     |         |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 354     |

&lt;210&gt; 3036

&lt;211&gt; 762

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3036

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Phe | Ala | Glu | Arg | Arg | Ala | Ala | Ala | Ala | Glu | Ser | Asp | Val | Ser |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Lys | Met | Ala | Gly | Arg | Ser | Met | Gln | Ala | Ala | Arg | Cys | Pro | Thr | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Leu | Ser | Leu | Thr | Asn | Cys | Ala | Val | Val | Asn | Glu | Lys | Asp | Phe | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Gly | Gln | His | Val | Ile | Val | Arg | Thr | Ser | Pro | Asn | His | Arg | Tyr | Thr |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Phe | Thr | Leu | Lys | Thr | His | Pro | Ser | Val | Val | Pro | Gly | Ser | Ile | Ala | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Leu | Pro | Gln | Arg | Lys | Trp | Ala | Gly | Leu | Ser | Ile | Gly | Gln | Glu | Ile |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Val | Ser | Leu | Tyr | Thr | Phe | Asp | Lys | Ala | Lys | Gln | Cys | Ile | Gly | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Met | Thr | Ile | Glu | Ile | Asp | Phe | Leu | Gln | Lys | Lys | Ser | Ile | Asp | Ser | Asn |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Tyr | Asp | Thr | Asp | Lys | Met | Ala | Ala | Glu | Phe | Ile | Gln | Gln | Phe | Asn |

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Asn Gln Ala Phe Ser Val Gly Gln Gln Leu Val Phe Ser Phe Asn Glu |     |     |
| 145   | 150 | 155 |
| Lys Leu Phe Gly Leu Leu Val Lys Asp Ile Glu Ala Met Asp Pro Ser |     | 160 |
|   | 165 | 170 |
| Ile Leu Asn Gly Glu Pro Ala Thr Gly Lys Arg Gln Lys Ile Glu Val |     | 175 |
|   | 180 | 185 |
| Gly Leu Val Val Gly Asn Ser Gln Val Ala Phe Glu Lys Ala Glu Asn |     | 190 |
|   | 195 | 200 |
| Ser Ser Leu Asn Leu Ile Gly Lys Ala Lys Thr Lys Glu Asn Arg Gln |     | 205 |
|   | 210 | 215 |
| Ser Ile Ile Asn Pro Asp Trp Asn Phe Glu Lys Met Gly Ile Gly Gly |     | 220 |
| 225   | 230 | 235 |
| Leu Asp Lys Glu Phe Ser Asp Ile Phe Arg Arg Ala Phe Ala Ser Arg |     | 240 |
|   | 245 | 250 |
| Val Phe Pro Pro Glu Ile Val Glu Gln Met Gly Cys Lys His Val Lys |     | 255 |
|   | 260 | 265 |
| Gly Ile Leu Leu Tyr Gly Pro Pro Gly Cys Gly Lys Thr Leu Leu Ala |     | 270 |
|   | 275 | 280 |
| Arg Gln Ile Gly Lys Met Leu Asn Ala Arg Glu Pro Lys Val Val Asn |     | 285 |
|   | 290 | 295 |
| Gly Pro Glu Ile Leu Asn Lys Tyr Val Gly Glu Ser Glu Ala Asn Ile |     | 300 |
| 305   | 310 | 315 |
| Arg Lys Leu Phe Ala Asp Ala Glu Glu Glu Gln Arg Arg Leu Gly Ala |     | 320 |
|   | 325 | 330 |
| Asn Ser Gly Leu His Ile Ile Ile Phe Asp Glu Ile Asp Ala Ile Cys |     | 335 |
|   | 340 | 345 |
| Lys Gln Arg Gly Ser Met Ala Gly Ser Thr Gly Val His Asp Thr Val |     | 350 |
|   | 355 | 360 |
| Val Asn Gln Leu Leu Ser Lys Ile Asp Gly Val Glu Gln Leu Asn Asn |     | 365 |
|   | 370 | 375 |
| Ile Leu Val Ile Gly Met Thr Asn Arg Pro Asp Leu Ile Asp Glu Ala |     | 380 |
| 385   | 390 | 395 |
| Leu Leu Arg Pro Gly Arg Leu Glu Val Lys Met Glu Ile Gly Leu Pro |     | 400 |
|   | 405 | 410 |
| Asp Glu Lys Gly Arg Leu Gln Ile Leu His Ile His Thr Ala Arg Met |     | 415 |
|   | 420 | 425 |
| Arg Gly His Gln Leu Leu Ser Ala Asp Val Asp Ile Lys Glu Leu Ala |     | 430 |
|   | 435 | 440 |
| Val Glu Thr Lys Asn Phe Ser Gly Ala Glu Leu Glu Gly Leu Val Arg |     | 445 |
|   | 450 | 455 |
| Ala Ala Gln Ser Thr Ala Met Asn Arg His Ile Lys Ala Ser Thr Lys |     | 460 |
| 465   | 470 | 475 |
| Val Glu Val Asp Met Glu Lys Ala Glu Ser Leu Gln Val Thr Arg Gly |     | 480 |
|   | 485 | 490 |
| Asp Phe Leu Ala Ser Leu Glu Asn Asp Ile Lys Pro Ala Phe Gly Thr |     | 495 |
|   | 500 | 505 |
| Asn Gln Glu Asp Tyr Ala Ser Tyr Ile Met Asn Gly Ile Ile Lys Trp |     | 510 |
|   | 515 | 520 |
| Gly Asp Pro Val Thr Arg Val Leu Asp Asp Gly Glu Leu Leu Val Gln |     | 525 |
|   | 530 | 535 |
| Gln Thr Lys Asn Ser Asp Arg Thr Pro Leu Val Ser Val Leu Leu Glu |     | 540 |
| 545   | 550 | 555 |
| Gly Pro Pro His Ser Gly Lys Thr Ala Leu Ala Ala Lys Ile Ala Glu |     | 560 |
|   | 565 | 570 |
| Glu Ser Asn Phe Pro Phe Ile Lys Ile Cys Ser Pro Asp Lys Met Ile |     | 575 |
|   | 580 | 585 |
| Gly Phe Ser Glu Thr Ala Lys Cys Gln Ala Met Lys Lys Ile Phe Asp |     | 590 |
|   | 595 | 600 |
| Asp Ala Tyr Lys Ser Gln Leu Ser Cys Val Val Val Asp Asp Ile Glu |     | 605 |
|   | 610 | 615 |
| Arg Leu Leu Asp Tyr Val Pro Ile Gly Pro Arg Phe Ser Asn Leu Val |     | 620 |
| 625   | 630 | 635 |
| Leu Gln Ala Leu Leu Val Leu Leu Lys Lys Ala Pro Pro Gln Gly Arg |     | 640 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     | 655 |     |     |  |  |
| Lys | Leu | Leu | Ile | Ile | Gly | Thr | Thr | Ser | Arg | Lys | Asp | Val | Leu | Gln | Glu |  |  |
|     |     |     | 660 |     |     |     |     |     | 665 |     |     |     | 670 |     |     |  |  |
| Met | Glu | Met | Leu | Asn | Ala | Phe | Ser | Thr | Thr | Ile | His | Val | Pro | Asn | Ile |  |  |
|     |     | 675 |     |     |     |     |     | 680 |     |     |     | 685 |     |     |     |  |  |
| Ala | Thr | Gly | Glu | Gln | Leu | Leu | Glu | Ala | Leu | Glu | Leu | Leu | Gly | Asn | Phe |  |  |
|     | 690 |     |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |  |  |
| Lys | Asp | Lys | Glu | Arg | Thr | Thr | Ile | Ala | Gln | Gln | Val | Lys | Gly | Lys | Lys |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Val | Trp | Ile | Gly | Ile | Lys | Lys | Leu | Leu | Met | Leu | Ile | Glu | Met | Ser | Leu |  |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Gln | Met | Asp | Pro | Glu | Tyr | Arg | Val | Arg | Lys | Phe | Leu | Ala | Leu | Leu | Arg |  |  |
|     |     | 740 |     |     |     |     |     |     | 745 |     |     |     |     | 750 |     |  |  |
| Glu | Glu | Gly | Ala | Ser | Pro | Leu | Asp | Phe | Asp |     |     |     |     |     |     |  |  |
|     |     | 755 |     |     |     |     | 760 |     | 762 |     |     |     |     |     |     |  |  |

&lt;210&gt; 3037

&lt;211&gt; 449

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3037

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Leu | Asp | Thr | Gly | Ser | Glu | His | Leu | Asn | Arg | Ile | Leu | Lys | Ala | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Pro | Ala | Leu | Gln | Ser | Ala | Gly | Ser | Glu | Gly | Gln | Asn | Gly | Ser | Ala | Glu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ser | Leu | Gly | Glu | Gly | Gly | Thr | Arg | Asp | Ser | Asp | Arg | Ala | Arg | Arg | Lys |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Leu | Arg | Gly | Gly | Asn | Lys | Glu | Ile | Pro | Thr | Phe | Tyr | Pro | Cys | Leu | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Val | Arg | Ser | Pro | Val | Thr | Ala | Ser | Asp | Leu | Arg | Gly | Thr | Gln | Asp | Phe |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Ala | Tyr | His | Gly | Leu | Ser | Leu | Ile | Leu | Glu | Pro | Leu | Gly | Ala | Cys |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Asn | Arg | Leu | Ser | Val | Cys | Val | Pro | Val | His | Ser | Pro | Pro | Gly | Met | Arg |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |  |
| Val | Ser | Pro | Arg | Ser | Pro | Ser | Leu | Arg | Thr | Leu | Val | Ile | Asp | Pro | Ala |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Pro | Ala | Gly | Ala | Gln | Arg | Leu | Arg | Phe | Ser | Gly | Lys | Glu | Arg | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Glu | Ala | Gly | Ser | Ala | Val | Glu | Gly | Leu | Ala | Val | Ala | Val | Ser | Met |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gly | Asp | Gly | Gly | Ala | Glu | Arg | Asp | Arg | Gly | Pro | Ala | Arg | Arg | Ala | Glu |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ser | Gly | Gly | Gly | Gly | Gly | Arg | Cys | Gly | Asp | Arg | Ser | Gly | Ala | Gly | Asp |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Leu | Arg | Ala | Asp | Gly | Gly | Gly | His | Ser | Pro | Thr | Glu | Val | Ala | Gly | Thr |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |  |  |
| Ser | Ala | Ser | Ser | Pro | Ala | Gly | Ser | Arg | Glu | Ser | Gly | Ala | Asp | Ser | Asp |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Gly | Gln | Pro | Gly | Pro | Gly | Glu | Ala | Asp | His | Cys | Arg | Arg | Ile | Leu | Val |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Arg | Asp | Ala | Lys | Gly | Thr | Ile | Arg | Glu | Ile | Val | Leu | Pro | Lys | Gly | Leu |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Asp | Leu | Asp | Arg | Pro | Lys | Arg | Thr | Arg | Thr | Phe | Phe | Thr | Ala | Glu | Gln |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |  |  |
| Leu | Tyr | Arg | Leu | Glu | Met | Glu | Phe | Gln | Arg | Cys | Gln | Tyr | Val | Val | Gly |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Arg | Glu | Arg | Thr | Glu | Leu | Ala | Arg | Gln | Leu | Asn | Leu | Ser | Glu | Thr | Gln |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Val | Lys | Val | Trp | Phe | Gln | Asn | Arg | Arg | Thr | Lys | Gln | Lys | Lys | Asp | Gln |  |  |

305                      310                      315                      320  
 Ser Arg Asp Leu Glu Lys Arg Ala Ser Ser Ser Ala Ser Glu Ala Phe  
                          325                      330                      335  
 Ala Thr Ser Asn Ile Leu Arg Leu Leu Glu Gln Gly Arg Leu Leu Ser  
                          340                      345                      350  
 Val Pro Arg Ala Pro Ser Leu Leu Ala Leu Thr Pro Ser Leu Pro Gly  
                          355                      360                      365  
 Leu Pro Ala Ser His Arg Gly Thr Ser Leu Gly Asp Pro Arg Asn Ser  
                          370                      375                      380  
 Ser Pro Arg Leu Asn Pro Leu Ser Ser Ala Ser Ala Ser Pro Pro Leu  
 385                      390                      395                      400  
 Pro Pro Pro Leu Pro Ala Val Cys Phe Ser Ser Ala Pro Leu Leu Asp  
                          405                      410                      415  
 Leu Pro Ala Gly Tyr Glu Leu Gly Ser Ser Ala Phe Glu Pro Tyr Ser  
                          420                      425                      430  
 Trp Leu Glu Arg Lys Val Gly Ser Ala Ser Ser Cys Lys Lys Ala Asn  
                          435                      440                      445  
 Thr  
 449

<210> 3038  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 3038  
 Thr Glu Leu Leu Pro Leu Cys Ser Arg Ser Gly Pro Lys Pro Gln Ser  
   1                          5                          10                          15  
 Gly Asp Pro Leu Leu Gln Leu Ala Gln Gln Ala Arg Pro Arg Leu Ser  
                           20                          25                          30  
 Gly Glu Arg Leu Glu Thr Ala Pro Ser Leu Leu Leu Ser Arg Met Ala  
                           35                          40                          45  
 Cys Val Ile Ser Gly Trp Ala Leu Ser Arg Gly Ala Arg Thr Trp Thr  
                           50                          55                          60  
 Trp Ala Thr Pro Thr Gly Pro Val His Arg Ala Gln Pro Ala Ile Arg  
   65                          70                          75                          80  
 Ser Leu Ser Ala Glu Gly Ala Leu Thr Arg Leu Lys Glu Glu Lys Trp  
                           85                          90                          95  
 Pro Gly Arg Tyr Ile Leu Pro Asn His Leu Thr Pro Pro Phe Leu Tyr  
                           100                          105                          110  
 Lys His Leu Gly Ser Val Pro Pro Ser His Trp Arg Ser Pro Leu Ile  
                           115                          120                          125  
 Ser His Ser Val Asn Ile Leu Ala Leu Asn Trp Arg  
   130                          135                          140

<210> 3039  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 3039  
 Ala Cys Gly Ile Arg His Glu Gly Ala Leu Pro Gly Leu Thr Ala Thr  
   1                          5                          10                          15  
 Pro Glu Ala Met Leu Arg Phe Leu Pro Asp Leu Ala Phe Ser Phe Leu  
                           20                          25                          30  
 Leu Ile Leu Ala Leu Gly Gln Ala Val Gln Phe Gln Glu Tyr Val Phe  
                           35                          40                          45  
 Leu Gln Phe Leu Gly Leu Asp Lys Ala Pro Ser Pro Gln Lys Phe Gln



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  | 55  | 60  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Pro | Val | Pro | Tyr | Ile | Leu | Lys | Lys | Ile | Phe | Gln | Asp | Arg | Glu | Ala | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ala | Thr | Thr | Gly | Val | Ser | Arg | Asp | Leu | Cys | Tyr | Val | Lys | Glu | Leu | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Arg | Gly | Asn | Val | Leu | Arg | Phe | Leu | Pro | Asp | Gln | Gly | Phe | Phe | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Pro | Lys | Lys | Ile | Ser | Gln | Ala | Ser | Ser | Cys | Leu | Gln | Lys | Leu | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Phe | Asn | Leu | Ser | Ala | Ile | Lys | Glu | Arg | Glu | Gln | Leu | Thr | Leu | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Leu | Gly | Leu | Asp | Leu | Gly | Pro | Asn | Ser | Tyr | Tyr | Asn | Leu | Gly | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Leu | Glu | Leu | Ala | Leu | Phe | Leu | Val | Gln | Glu | Pro | His | Val | Trp | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Thr | Thr | Pro | Lys | Pro | Gly | Lys | Met | Phe | Val | Leu | Arg | Ser | Val | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Trp | Pro | Gln | Gly | Ala | Val | His | Phe | Asn | Leu | Leu | Asp | Val | Ala | Lys | Asp |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Trp | Asn | Asp | Asn | Pro | Arg | Lys | Asn | Phe | Gly | Leu | Phe | Leu | Glu | Ile | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | Lys | Glu | Asp | Arg | Asp | Ser | Gly | Val | Asn | Phe | Gln | Pro | Glu | Asp | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Cys | Ala | Arg | Leu | Arg | Cys | Ser | Leu | His | Ala | Ser | Leu | Leu | Val | Val | Thr |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Asn | Pro | Asp | Gln | Cys | His | Pro | Ser | Arg | Lys | Arg | Arg | Ala | Ala | Ile |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Val | Pro | Lys | Leu | Ser | Cys | Lys | Asn | Leu | Cys | His | Arg | His | Gln | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Phe | Ile | Asn | Phe | Arg | Asp | Leu | Gly | Trp | His | Lys | Trp | Ile | Ile | Ala | Pro |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Lys | Gly | Phe | Met | Ala | Asn | Tyr | Cys | His | Gly | Glu | Cys | Pro | Phe | Ser | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Thr | Ile | Ser | Leu | Asn | Ser | Ser | Asn | Tyr | Ala | Phe | Met | Gln | Ala | Leu | Met |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| His | Ala | Val | Asp | Pro | Glu | Ile | Pro | Gln | Ala | Val | Cys | Ile | Pro | Thr | Lys |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Leu | Ser | Pro | Ile | Ser | Met | Leu | Tyr | Gln | Asp | Asn | Asn | Asp | Asn | Val | Ile |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Arg | His | Tyr | Glu | Asp | Met | Val | Val | Asp | Glu | Cys | Gly | Cys | Gly |     |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     | 383 |     |

&lt;210&gt; 3040

&lt;211&gt; 277

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3040

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Arg | Leu | Pro | Arg | Gly | Pro | Gly | Cys | Gly | Ala | Asp | Met | Arg | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Leu | Gly | Leu | Leu | Leu | Val | Phe | Ala | Gly | Cys | Thr | Phe | Ala | Leu | Tyr |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Leu | Ser | Thr | Arg | Leu | Pro | Arg | Gly | Arg | Arg | Leu | Gly | Ser | Thr | Glu |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Glu | Ala | Gly | Gly | Arg | Ser | Leu | Trp | Phe | Pro | Ser | Asp | Leu | Ala | Glu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Glu | Leu | Ser | Glu | Val | Leu | Arg | Glu | Tyr | Arg | Lys | Glu | His | Gln | Ala |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Tyr | Val | Phe | Leu | Leu | Phe | Cys | Gly | Ala | Tyr | Leu | Tyr | Lys | Gln | Gly | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ala | Ile | Pro | Gly | Ser | Ser | Phe | Leu | Asn | Val | Leu | Ala | Gly | Ala | Leu | Phe |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Gly | Pro | Trp | Leu | Gly | Leu | Leu | Leu | Cys | Cys | Val | Leu | Thr | Ser | Val | Gly |  |  |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |  |  |
| Ala | Thr | Cys | Cys | Tyr | Leu | Leu | Ser | Ser | Ile | Phe | Gly | Lys | Gln | Leu | Val |  |  |
|     |     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |  |  |
| Val | Ser | Tyr | Phe | Pro | Asp | Lys | Val | Ala | Leu | Leu | Gln | Arg | Lys | Val | Glu |  |  |
|     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Glu | Asn | Arg | Asn | Ser | Leu | Phe | Phe | Phe | Leu | Leu | Phe | Leu | Arg | Leu | Phe |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Pro | Met | Thr | Pro | Asn | Trp | Phe | Leu | Asn | Leu | Ser | Ala | Pro | Ile | Leu | Asn |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ile | Pro | Ile | Val | Gln | Phe | Phe | Phe | Ser | Val | Leu | Ile | Gly | Leu | Ile | Pro |  |  |
|     |     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |  |  |
| Tyr | Asn | Phe | Ile | Cys | Val | Gln | Thr | Gly | Ser | Ile | Leu | Ser | Thr | Leu | Thr |  |  |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ser | Leu | Asp | Ala | Leu | Phe | Ser | Trp | Asp | Thr | Val | Phe | Lys | Leu | Leu | Ala |  |  |
|     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     |     | 240 |  |  |
| Ile | Ala | Met | Val | Ala | Leu | Ile | Pro | Gly | Thr | Leu | Ile | Lys | Lys | Phe | Ser |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Gln | Lys | His | Leu | Gln | Leu | Asn | Glu | Thr | Ser | Thr | Ala | Asn | His | Ile | His |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ser | Arg | Lys | Asp | Thr |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 275 |     | 277 |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3041

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3041

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Leu | Lys | Arg | Arg | Arg | Leu | Cys | Phe | Ala | Lys | Val | Gly | Asp | Val | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Cys | Leu | Ser | Leu | Pro | Pro | Ser | Arg | Ser | Ala | Arg | Val | Leu | Glu | Asp |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ile | Ser | Ile | Leu | Ser | Cys | Ile | Ser | Val | Asp | Ser | Arg | Ile | Val | Arg | Thr |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Lys | Val | Pro | Cys | Ser | Val | Thr | Met | Ser | Arg | Pro | Arg | Lys | Arg | Leu | Ala |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Gly | Thr | Ser | Gly | Ser | Asp | Lys | Gly | Leu | Ser | Gly | Lys | Arg | Thr | Lys | Thr |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Glu | Asn | Ser | Gly | Glu | Ala | Leu | Ala | Lys | Val | Glu | Asp | Ser | Asn | Pro | Gln |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Lys | Thr | Ser | Ala | Thr | Lys | Asn | Cys | Leu | Lys | Asn | Leu | Ser | Ser | His | Trp |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Met | Lys | Ser | Glu | Pro | Glu | Ser | Arg | Leu | Glu | Lys | Gly | Val | Asp | Val |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Phe | Ser | Ile | Glu | Asp | Leu | Lys | Ala | Gln | Pro | Lys | Gln | Thr | Thr | Cys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Trp | Asp | Gly | Val | Arg | Asn | Tyr | Gln | Ala | Arg | Asn | Phe | Leu | Arg | Ala | Met |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Lys | Leu | Gly | Glu | Glu | Ala | Phe | Phe | Tyr | His | Ser | Asn | Cys | Lys | Glu | Pro |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Gly | Ile | Ala | Gly | Leu | Met | Lys | Ile | Val | Lys | Glu | Ala | Tyr | Pro | Asp | His |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Thr | Gln | Phe | Glu | Lys | Asn | Asn | Pro | His | Tyr | Asp | Pro | Ser | Ser | Lys | Glu |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Asp | Asn | Pro | Lys | Trp | Ser | Met | Val | Asp | Val | Gln | Phe | Val | Arg | Met | Met |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Arg | Phe | Ile | Pro | Leu | Ala | Glu | Leu | Lys | Ser | Tyr | His | Gln | Ala | His |  |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Lys | Ala | Thr | Gly | Gly | Pro | Leu | Lys | Asn | Met | Val | Leu | Phe | Thr | Arg | Gln |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Arg | Leu | Ser | Ile | Gln | Pro | Leu | Thr | Gln | Glu | Glu | Phe | Asp | Phe | Val | Leu |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |  |  |
| Ser | Leu | Glu | Glu | Lys | Glu | Pro | Ser |     |     |     |     |     |     |     |     |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     |     |     |     |  |  |

<210> 3042  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens

<400> 3042

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Leu | Lys | Arg | Arg | Arg | Leu | Cys | Phe | Ala | Lys | Val | Gly | Asp | Val | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Cys | Leu | Ser | Leu | Pro | Pro | Ser | Arg | Ser | Ala | Arg | Val | Leu | Glu | Asp |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ile | Ser | Ile | Leu | Ser | Cys | Ile | Ser | Val | Asp | Ser | Arg | Ile | Val | Arg | Thr |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Lys | Val | Pro | Cys | Ser | Val | Thr | Met | Ser | Arg | Pro | Arg | Lys | Arg | Leu | Ala |  |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Gly | Thr | Ser | Gly | Ser | Asp | Lys | Gly | Leu | Ser | Gly | Lys | Arg | Thr | Lys | Thr |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Glu | Asn | Ser | Gly | Glu | Ala | Leu | Ala | Lys | Val | Glu | Asp | Ser | Asn | Pro | Gln |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Lys | Thr | Ser | Ala | Thr | Lys | Asn | Cys | Leu | Lys | Asn | Leu | Ser | Ser | His | Trp |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Met | Lys | Ser | Glu | Pro | Glu | Ser | Arg | Leu | Glu | Lys | Gly | Val | Asp | Val |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Phe | Ser | Ile | Glu | Asp | Leu | Lys | Ala | Gln | Pro | Lys | Gln | Thr | Thr | Cys |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Trp | Asp | Gly | Val | Arg | Asn | Tyr | Gln | Ala | Arg | Asn | Phe | Leu | Arg | Ala | Met |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |  |
| Lys | Leu | Gly | Glu | Glu | Ala | Phe | Phe | Tyr | His | Ser | Asn | Cys | Lys | Glu | Pro |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Gly | Ile | Ala | Gly | Leu | Met | Lys | Ile | Val | Lys | Glu | Ala | Tyr | Pro | Asp | His |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |  |  |
| Thr | Gln | Phe | Glu | Lys | Asn | Asn | Pro | His | Tyr | Asp | Pro | Ser | Ser | Lys | Glu |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Asp | Asn | Pro | Lys | Trp | Ser | Met | Val | Asp | Val | Gln | Phe | Val | Arg | Met | Met |  |  |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Arg | Phe | Ile | Pro | Leu | Ala | Glu | Leu | Lys | Ser | Tyr | His | Gln | Ala | His |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Lys | Ala | Thr | Gly | Gly | Pro | Leu | Lys | Asn | Met | Val | Leu | Phe | Thr | Arg | Gln |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Arg | Leu | Ser | Ile | Gln | Pro | Leu | Thr | Gln | Glu | Glu | Phe | Asp | Phe | Val | Leu |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |  |  |
| Ser | Leu | Glu | Glu | Lys | Glu | Pro | Ser |     |     |     |     |     |     |     |     |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     |     |     |     |  |  |

<210> 3043  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens

<400> 3043

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Gly | Thr | Ala | Pro | Ala | Pro | Gly | Gly | Arg | Asp | Arg | Ala | Pro | Ala | Met |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Ser | Phe | Gln | Leu | Glu | Asp | Phe | Ala | Ala | Gly | Trp | Ile | Gly | Gly | Ala |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ala | Ser | Val | Ile | Val | Gly | His | Pro | Leu | Asp | Thr | Val | Lys | Thr | Arg | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gln | Ala | Gly | Val | Gly | Tyr | Gly | Asn | Thr | Leu | Ser | Cys | Ile | Arg | Val | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Tyr | Arg | Arg | Glu | Ser | Met | Phe | Gly | Phe | Phe | Lys | Gly | Met | Ser | Phe | Pro |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Leu | Ala | Ser | Ile | Ala | Val | Tyr | Asn | Ser | Val | Val | Phe | Gly | Val | Phe | Ser |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Asn | Thr | Gln | Arg | Phe | Leu | Ser | Gln | His | Arg | Cys | Gly | Glu | Pro | Glu | Ala |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Ser | Pro | Pro | Arg | Thr | Leu | Ser | Asp | Leu | Leu | Leu | Ala | Ser | Met | Val | Ala |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Gly | Val | Val | Ser | Val | Gly | Leu | Gly | Gly | Pro | Val | Asp | Leu | Ile | Lys | Ile |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | Leu | Gln | Met | Gln | Thr | Gln | Pro | Phe | Arg | Asp | Ala | Asn | Leu | Gly | Leu |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Lys | Ser | Arg | Ala | Val | Ala | Pro | Ala | Glu | Gln | Pro | Ala | Tyr | Gln | Gly | Pro |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Val | His | Cys | Ile | Thr | Thr | Ile | Val | Arg | Asn | Glu | Gly | Leu | Ala | Gly | Leu |  |  |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |  |  |
| Tyr | Arg | Gly | Ala | Ser | Ala | Met | Leu | Leu | Arg | Asp | Val | Pro | Gly | Tyr | Cys |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Leu | Tyr | Phe | Ile | Pro | Tyr | Val | Phe | Leu | Ser | Glu | Trp | Ile | Thr | Pro | Glu |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Ala | Cys | Thr | Gly | Pro | Ser | Pro | Cys | Ala | Val | Trp | Leu | Ala | Gly | Gly | Met |  |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Ala | Gly | Ala | Ile | Ser | Trp | Gly | Thr | Ala | Thr | Pro | Met | Asp | Val | Val | Lys |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Ser | Arg | Leu | Gln | Ala | Asp | Gly | Val | Tyr | Leu | Asn | Lys | Tyr | Lys | Gly | Val |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |  |  |
| Leu | Asp | Cys | Ile | Ser | Gln | Ser | Tyr | Gln | Lys | Glu | Gly | Leu | Lys | Val | Phe |  |  |
|     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |     |  |  |
| Phe | Arg | Gly | Ile | Thr | Val | Asn | Ala | Val | Arg | Gly | Phe | Pro | Met | Ser | Ala |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |  |  |
| Ala | Met | Phe | Leu | Gly | Tyr | Glu | Leu | Ser | Leu | Gln | Ala | Ile | Arg | Gly | Asp |  |  |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| His | Ala | Val | Thr | Ser | Pro |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 325 | 326 |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3044

&lt;211&gt; 425

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3044

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Pro | Pro | Leu | Gly | Ala | Gly | Ala | Gly | Ile | His | Ala | Arg | Ser | Pro | His | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ala | Arg | Arg | Leu | Arg | Leu | Thr | Ala | Ala | Gly | Val | Gly | Gly | Arg | Ala | Ser |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Gly | Leu | Leu | Pro | Thr | Pro | Trp | Arg | Arg | His | His | Gly | Pro | Ser | Gly | Ala |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Ala | Pro | Tyr | Pro | Ala | Ala | Arg | Leu | Trp | Gln | Gly | Pro | Trp | Arg | Cys | Arg |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Arg | Pro | Gln | Pro | Met | Ala | Gln | Arg | Tyr | Asp | Glu | Leu | Pro | His | Tyr | Pro |  |  |
|     | 65  |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Gly | Ile | Ala | Asp | Gly | Pro | Ala | Ala | Leu | Ala | Gly | Phe | Pro | Glu | Ala | Val |  |  |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |  |  |
| Pro | Ala | Ala | Pro | Gly | Pro | Tyr | Gly | Pro | His | Arg | Pro | Pro | Gln | Pro | Leu |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Pro | Pro | Gly | Leu | Asp | Ser | Asp | Gly | Leu | Lys | Arg | Asp | Lys | Asp | Glu | Ile |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Tyr | Gly | His | Pro | Leu | Phe | Pro | Leu | Leu | Ala | Leu | Gly | Phe | Glu | Lys | Cys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Leu | Ala | Thr | Cys | Ser | Pro | Arg | Asp | Gly | Ala | Gly | Ala | Gly | Leu | Gly |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |
| Thr | Pro | Arg | Gly | Gly | Asp | Val | Cys | Ser | Ser | Asp | Ser | Phe | Asn | Glu | Asp |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Thr | Ala | Phe | Ala | Lys | Gln | Val | Cys | Ser | Glu | Arg | Pro | Phe | Ser | Ser |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asn | Pro | Glu | Leu | Asp | Asn | Leu | Met | Ile | Gln | Ala | Ile | Gln | Val | Leu | Arg |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Phe | His | Leu | Leu | Glu | Leu | Glu | Lys | Gly | Lys | Met | Pro | Ile | Asp | Leu | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ile | Glu | Asp | Arg | Asp | Gly | Gly | Cys | Arg | Glu | Asp | Phe | Glu | Asp | Tyr | Pro |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |
| Ala | Pro | Cys | Pro | Ser | Leu | Pro | Asp | Gln | Asn | Asn | Ile | Trp | Ile | Arg | Asp |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| His | Glu | Asp | Ser | Gly | Ser | Val | His | Leu | Gly | Thr | Pro | Gly | Pro | Ser | Ser |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gly | Gly | Leu | Ala | Ser | Gln | Ser | Gly | Asp | Asn | Ser | Ser | Asp | Gln | Gly | Val |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Gly | Leu | Asp | Thr | Ser | Val | Ala | Ser | Pro | Ser | Ser | Gly | Gly | Glu | Asp | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asp | Leu | Asp | Gln | Glu | Pro | Arg | Arg | Asn | Lys | Lys | Arg | Gly | Ile | Phe | Pro |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |
| Lys | Val | Ala | Thr | Asn | Ile | Met | Arg | Ala | Trp | Leu | Phe | Gln | His | Leu | Ser |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| His | Pro | Tyr | Pro | Ser | Glu | Glu | Gln | Lys | Lys | Gln | Leu | Ala | Gln | Asp | Thr |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gly | Leu | Thr | Ile | Leu | Gln | Val | Asn | Asn | Trp | Phe | Ile | Asn | Ala | Arg | Arg |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Arg | Ile | Val | Gln | Pro | Met | Ile | Asp | Gln | Ser | Asn | Arg | Thr | Gly | Gln | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ala | Ala | Phe | Ser | Pro | Glu | Gly | Gln | Pro | Ile | Gly | Gly | Tyr | Thr | Glu | Thr |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |
| Glu | Pro | His | Val | Ala | Phe | Arg | Ala | Pro | Ala | Ser | Val | Gly | Met | Ser | Leu |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Asn | Ser | Glu | Gly | Glu | Trp | His | Tyr | Leu |     |     |     |     |     |     |     |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     |     |     |     |

<210> 3045  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 3045

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | His | Thr | Gln | Trp | His | Thr | Cys | Gln | Arg | Leu | Ser | Gln | Leu | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| His | Arg | Ser | Ile | Leu | Lys | Tyr | Leu | Leu | Ile | Asp | Thr | His | Ala | Cys | Gln |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Leu | Ile | Leu | Lys | His | Thr | His | Ala | Ser | Leu | Ser | Leu | Pro | Ser | Cys |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Glu | Cys | Phe | Pro | Ser | Ser | Ile | Pro | Ser | Ala | Ser | His | Met | Val | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Pro | His | Pro | Pro | Pro | Ser | Pro | Arg | Trp | Gly | Gln | Thr | Pro | Glu | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Leu | Pro | Ala | Ala | Ser | Pro | Cys | Gly | Pro | Gly | Pro | Arg | Ser | Cys | Phe | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Ile | Leu | Pro | Thr | Gly | Asp | Ser | Trp | Gly | Met | Leu | Ala | Cys | Leu | Cys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Val | Leu | Trp | His | Leu | Pro | Ala | Val | Pro | Ala | Leu | Asn | Arg | Thr | Gly |



|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Asp Pro Gly Pro Gly Pro Ser Ile Gln Lys Thr Tyr Asp Leu Thr Arg |     |     |
| 130   | 135 | 140 |
| Tyr Leu Glu His Gln Leu Arg Ser Leu Ala Gly Thr Tyr Leu Asn Tyr |     |     |
| 145   | 150 | 155 |
| Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe Asn Pro Pro Arg Leu Gly |     | 160 |
| 165   | 170 | 175 |
| Ala Glu Thr Leu Pro Arg Ala Thr Val Asp Leu Glu Val Trp Arg Ser |     |     |
| 180   | 185 | 190 |
| Leu Asn Asp Lys Leu Arg Leu Thr Gln Asn Tyr Glu Ala Tyr Ser His |     |     |
| 195   | 200 | 205 |
| Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg Gln Ala Ala Thr Ala Glu |     |     |
| 210   | 215 | 220 |
| Leu Arg Arg Ser Leu Ala His Phe Cys Thr Ser Leu Gln Gly Leu Leu |     |     |
| 225   | 230 | 235 |
| Gly Ser Ile Ala Gly Val Met Ala Ala Leu Gly Tyr Pro Leu Pro Gln |     | 240 |
| 245   | 250 | 255 |
| Pro Leu Pro Gly Thr Glu Pro Thr Trp Thr Pro Gly Pro Ala His Ser |     |     |
| 260   | 265 | 270 |
| Asp Phe Leu Gln Lys Met Asp Asp Phe Trp Leu Leu Lys Glu Leu Gln |     |     |
| 275   | 280 | 285 |
| Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe Asn Arg Leu Lys Lys Lys |     |     |
| 290   | 295 | 300 |
| Met Gln Pro Pro Ala Ala Ala Val Thr Leu His Leu Gly Ala His Gly |     |     |
| 305   | 310 | 315 |
| Phe   |     | 320 |
| 321   |     |     |

<210> 3046  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 3046

|   |  |
|---|--|
| Met Tyr Ala Tyr Met Tyr Ile Cys Thr His Ile Cys Ile Cys Ala Tyr |  |
| 1 5 10 15   |  |
| Arg Gly Ile His Ile Asp Val Tyr Leu Tyr Met Cys Ile Tyr Ile His |  |
| 20 25 30  |  |
| Ile Trp Ile His Thr Tyr Leu Cys Val His Ile Tyr Val Tyr Val Tyr |  |
| 35 40 45  |  |
| Ile Cys Thr His Ile Cys Met Cys Ile His Thr Tyr Val Tyr Val Tyr |  |
| 50 55 60  |  |
| Thr Tyr Met Tyr Val Tyr Thr Tyr Ile Cys Leu Cys Val Tyr Ile Cys |  |
| 65 70 75 80   |  |
| Leu Cys Val His Ile Tyr Leu Cys Val Tyr Ile His Met Tyr Met Cys |  |
| 85 90 95  |  |
| Thr His Ile Cys Met Cys Ile His Thr Tyr Val His Met Cys Ile Cys |  |
| 100 105 110   |  |
| Val Tyr Ile His Met Tyr Thr Cys Val Tyr Val Tyr Thr Tyr Thr Cys |  |
| 115 120 125   |  |
| Val Tyr Met Tyr   |  |
| 130 132   |  |

<210> 3047  
 <211> 226  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3047

```

Ser Leu Asp Leu Leu Gly Pro Ile Gly Ile Leu Gln Glu Gly Arg Asp
 1           5           10           15
Pro Gly Thr Gln Gly Pro Gln Glu Lys Glu Lys Gln Met Pro Ala Ser
          20           25           30
Pro Met Asn Thr Asp Ala His Leu Asp Ile Asn Phe Lys Glu Gly Leu
          35           40           45
Lys Lys Glu Arg Ser Tyr Thr Gly Gln Phe Glu Ala Asn Val Arg Asp
          50           55           60
Glu Glu Arg Gln Cys Gly Cys Gly Val Val Pro Asp Ser Leu Leu Met
          65           70           75           80
Lys Val Leu Ser Gln Arg Leu Asp Gln Gln Asp Cys Ile Gln Lys Gly
          85           90           95
Trp Val Leu His Gly Val Pro Arg Asp Leu Asp Gln Ala His Leu Leu
          100          105          110
Asn Arg Leu Gly Tyr Asn Pro Asn Arg Glu Phe Phe Leu Asn Val Pro
          115          120          125
Phe Asp Ser Ile Met Glu Arg Leu Thr Leu Arg Arg Ile Asp Pro Val
          130          135          140
Thr Gly Glu Arg Tyr His Leu Met Tyr Lys Pro Pro Pro Thr Met Glu
          145          150          155          160
Ile Gln Ala Arg Leu Leu Gln Asn Pro Lys Asp Ala Glu Glu Gln Val
          165          170          175
Lys Leu Lys Met Asp Leu Phe Tyr Arg Asn Ser Ala Asp Leu Glu Gln
          180          185          190
Leu Tyr Gly Ser Ala Ile Thr Leu Asn Gly Asp Gln Asp Pro Tyr Thr
          195          200          205
Val Phe Glu Tyr Ile Glu Ser Gly Ile Ile Asn Pro Leu Pro Lys Lys
          210          215          220
Ile Pro
225 226

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&lt;210&gt; 3048

&lt;211&gt; 388

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3048

```

Arg Pro Arg Arg Gly Gln Gly Leu Val Gln Glu Val Gln Thr Glu Asn
 1           5           10           15
Val Thr Val Ala Glu Gly Gly Val Ala Glu Ile Thr Cys Arg Leu His
          20           25           30
Gln Tyr Asp Gly Ser Ile Val Val Ile Gln Asn Pro Ala Arg Gln Thr
          35           40           45
Leu Phe Phe Asn Gly Thr Arg Ala Leu Lys Asp Glu Arg Phe Gln Leu
          50           55           60
Glu Glu Phe Ser Pro Arg Arg Val Arg Ile Arg Leu Ser Asp Ala Arg
          65           70           75           80
Leu Glu Asp Glu Gly Gly Tyr Phe Cys Gln Leu Tyr Thr Glu Asp Thr
          85           90           95
His His Gln Ile Ala Thr Leu Thr Val Leu Val Ala Pro Glu Asn Pro
          100          105          110
Val Val Glu Val Arg Glu Gln Ala Val Glu Gly Gly Glu Val Glu Leu
          115          120          125
Ser Cys Leu Val Pro Arg Ser Arg Pro Ala Ala Thr Leu Arg Trp Tyr
          130          135          140
Arg Asp Arg Lys Glu Leu Lys Gly Val Ser Ser Ser Gln Glu Asn Gly
          145          150          155          160
Lys Val Trp Ser Val Ala Ser Thr Val Arg Phe Arg Val Asp Arg Lys
          165          170          175
Asp Asp Gly Gly Ile Ile Ile Cys Glu Ala Gln Asn Gln Ala Leu Pro

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ser | Gly | His | Ser | Lys | Gln | Thr | Gln | Tyr | Val | Leu | Asp | Val | Gln | Tyr | Ser |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Pro | Thr | Ala | Arg | Ile | His | Ala | Ser | Gln | Ala | Val | Val | Arg | Glu | Gly | Asp |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Thr | Leu | Val | Leu | Thr | Cys | Ala | Val | Thr | Gly | Asn | Pro | Arg | Pro | Asn | Gln |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Ile | Arg | Trp | Asn | Arg | Gly | Asn | Glu | Ser | Leu | Pro | Glu | Arg | Ala | Glu | Ala |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Val | Gly | Glu | Thr | Leu | Thr | Leu | Pro | Gly | Leu | Val | Ser | Ala | Asp | Asn | Gly |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Thr | Tyr | Thr | Cys | Glu | Ala | Ser | Asn | Lys | His | Gly | His | Ala | Arg | Ala | Leu |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Tyr | Val | Leu | Val | Val | Tyr | Gly | Glu | Ser | Arg | Leu | Arg | Pro | Thr | Glu | Gly |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gly | Gly | Gly | Ala | Pro | Asp | Pro | Gly | Ala | Val | Val | Glu | Ala | Gln | Thr | Ser |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Val | Pro | Tyr | Ala | Ile | Val | Gly | Gly | Ile | Leu | Ala | Leu | Leu | Val | Phe | Leu |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Ile | Ile | Cys | Val | Leu | Val | Gly | Met | Val | Trp | Cys | Ser | Val | Arg | Gln | Lys |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Gly | Ser | Tyr | Leu | Thr | His | Glu | Ala | Ser | Gly | Leu | Asp | Glu | Gln | Gly | Glu |  |  |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |  |  |
| Ala | Arg | Glu | Ala | Phe | Leu | Asn | Gly | Ser | Asp | Gly | His | Lys | Arg | Lys | Glu |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Glu | Phe | Phe | Ile |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 385 |     |     | 388 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3049

&lt;211&gt; 758

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3049

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Gly | Cys | Thr | Leu | Arg | Val | Gly | Val | Met | Ala | Ala | Ala | Gly | Ser | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Lys | Arg | Arg | Leu | Ala | Glu | Leu | Thr | Val | Asp | Glu | Phe | Leu | Ala | Ser | Gly |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Phe | Asp | Ser | Glu | Ser | Glu | Ser | Glu | Ser | Glu | Asn | Ser | Pro | Gln | Ala | Glu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Thr | Arg | Glu | Ala | Arg | Glu | Ala | Ala | Arg | Ser | Pro | Asp | Lys | Pro | Gly | Gly |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Ser | Pro | Ser | Ala | Ser | Arg | Arg | Lys | Gly | Arg | Ala | Ser | Glu | His | Lys | Asp |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |     |  |  |
| Gln | Leu | Ser | Arg | Leu | Lys | Asp | Arg | Asp | Pro | Glu | Phe | Tyr | Lys | Phe | Leu |  |  |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |  |  |
| Gln | Glu | Asn | Asp | Gln | Ser | Leu | Leu | Asn | Phe | Ser | Asp | Ser | Asp | Ser | Ser |  |  |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Glu | Glu | Glu | Glu | Gly | Pro | Phe | His | Ser | Leu | Pro | Asp | Val | Leu | Glu | Glu |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |
| Ala | Ser | Glu | Glu | Glu | Asp | Gly | Ala | Glu | Glu | Gly | Glu | Asp | Gly | Asp | Arg |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |  |  |
| Val | Pro | Arg | Gly | Leu | Lys | Gly | Lys | Lys | Asn | Ser | Val | Pro | Val | Thr | Val |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |  |  |
| Ala | Met | Val | Glu | Arg | Trp | Lys | Gln | Ala | Ala | Lys | Gln | Arg | Leu | Thr | Pro |  |  |
|     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |     |  |  |
| Lys | Leu | Phe | His | Glu | Val | Val | Gln | Ala | Phe | Arg | Ala | Ala | Val | Ala | Thr |  |  |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |  |  |
| Thr | Arg | Gly | Asp | Gln | Glu | Ser | Ala | Glu | Ala | Asn | Lys | Phe | Gln | Val | Thr |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Asp | Ser | Ala | Ala | Phe | Asn | Ala | Leu | Val | Thr | Phe | Cys | Ile | Arg | Asp | Leu |  |  |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 210                     | 215                 | 220                 |
| Ile Gly Cys Leu Gln Lys | Leu Leu Phe Gly Lys | Val Ala Lys Asp Ser |
| 225                     | 230                 | 235                 |
| Ser Arg Met Leu Gln Pro | Ser Ser Ser Pro Leu | Trp Gly Lys Leu Arg |
| 245                     | 250                 | 255                 |
| Val Asp Ile Lys Ala Tyr | Leu Gly Ser Ala Ile | Gln Leu Val Ser Cys |
| 260                     | 265                 | 270                 |
| Leu Ser Glu Thr Thr Val | Leu Ala Ala Val Leu | Arg His Ile Ser Val |
| 275                     | 280                 | 285                 |
| Leu Val Pro Cys Phe Leu | Thr Phe Pro Lys Gln | Cys Arg Met Leu Leu |
| 290                     | 295                 | 300                 |
| Lys Arg Met Val Val Val | Trp Ser Thr Gly Glu | Glu Ser Leu Arg Val |
| 305                     | 310                 | 315                 |
| Leu Ala Phe Leu Val Leu | Ser Arg Val Cys Arg | His Lys Lys Asp Thr |
| 325                     | 330                 | 335                 |
| Phe Leu Gly Pro Val Leu | Lys Gln Met Tyr Ile | Thr Tyr Val Arg Asn |
| 340                     | 345                 | 350                 |
| Cys Lys Phe Thr Ser Pro | Gly Ala Leu Pro Phe | Ile Ser Phe Met Gln |
| 355                     | 360                 | 365                 |
| Trp Thr Leu Thr Glu Leu | Leu Ala Leu Glu Pro | Gly Val Ala Tyr Gln |
| 370                     | 375                 | 380                 |
| His Ala Phe Leu Tyr Ile | Arg Gln Leu Ala Ile | His Leu Arg Asn Ala |
| 385                     | 390                 | 395                 |
| Met Thr Thr Arg Lys Lys | Glu Thr Tyr Gln Ser | Val Tyr Asn Trp Gln |
| 405                     | 410                 | 415                 |
| Tyr Val His Cys Leu Phe | Leu Trp Cys Arg Val | Leu Ser Thr Ala Gly |
| 420                     | 425                 | 430                 |
| Pro Ser Glu Ala Leu Gln | Pro Leu Val Tyr Pro | Leu Ala Gln Val Ile |
| 435                     | 440                 | 445                 |
| Ile Gly Cys Ile Lys Leu | Ile Pro Thr Ala Arg | Phe Tyr Pro Leu Arg |
| 450                     | 455                 | 460                 |
| Met His Cys Ile Arg Ala | Leu Thr Leu Leu Ser | Gly Ser Ser Gly Ala |
| 465                     | 470                 | 475                 |
| Phe Ile Pro Val Leu Pro | Phe Ile Leu Glu Met | Phe Gln Gln Val Asp |
| 485                     | 490                 | 495                 |
| Phe Asn Arg Lys Pro Gly | Arg Met Ser Ser Lys | Pro Ile Asn Phe Ser |
| 500                     | 505                 | 510                 |
| Val Ile Leu Lys Leu Ser | Asn Val Asn Leu Gln | Glu Lys Ala Tyr Arg |
| 515                     | 520                 | 525                 |
| Asp Gly Leu Val Glu Gln | Leu Tyr Asp Leu Thr | Leu Glu Tyr Leu His |
| 530                     | 535                 | 540                 |
| Ser Gln Ala His Cys Ile | Gly Phe Pro Glu Leu | Val Leu Pro Val Val |
| 545                     | 550                 | 555                 |
| Leu Gln Leu Lys Ser Phe | Leu Arg Glu Cys Lys | Val Ala Asn Tyr Cys |
| 565                     | 570                 | 575                 |
| Arg Gln Val Gln Gln Leu | Leu Gly Lys Val Gln | Glu Asn Ser Ala Tyr |
| 580                     | 585                 | 590                 |
| Ile Cys Ser Arg Arg Gln | Arg Val Ser Phe Gly | Val Ser Glu Gln Gln |
| 595                     | 600                 | 605                 |
| Ala Val Glu Ala Trp Glu | Lys Leu Thr Arg Glu | Glu Gly Thr Pro Leu |
| 610                     | 615                 | 620                 |
| Thr Leu Tyr Tyr Ser His | Trp Arg Lys Leu Arg | Asp Arg Glu Ile Gln |
| 625                     | 630                 | 635                 |
| Leu Glu Ile Ser Gly Lys | Glu Arg Leu Glu Asp | Leu Asn Phe Pro Glu |
| 645                     | 650                 | 655                 |
| Ile Lys Arg Arg Lys Met | Ala Asp Arg Lys Asp | Glu Asp Arg Lys Gln |
| 660                     | 665                 | 670                 |
| Phe Lys Asp Leu Phe Asp | Leu Asn Ser Ser Glu | Glu Asp Asp Thr Glu |
| 675                     | 680                 | 685                 |
| Gly Phe Ser Glu Arg Gly | Ile Leu Arg Pro Leu | Ser Thr Arg His Gly |
| 690                     | 695                 | 700                 |
| Val Glu Asp Asp Glu Glu | Asp Glu Glu Glu Gly | Glu Glu Asp Ser Ser |
| 705                     | 710                 | 715                 |
| Asn Ser Glu Asp Gly Asp | Pro Asp Ala Glu Ala | Gly Leu Ala Pro Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Glu | Leu | Gln | Gln | Leu | Ala | Gln | Gly | Pro | Glu | Asp | Glu | Leu | Glu | Asp | Leu |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Gln | Leu | Ser | Glu | Asp | Asp |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 755 |     |     | 758 |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3050  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 3050

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| His | Leu | Asp | Arg | Tyr | Ile | Lys | Ser | Pro | Gly | Ser | Gly | Ser | Ser | Thr | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ala | Pro | Pro | Ser | His | Leu | Leu | Leu | Tyr | Leu | Leu | His | Pro | Gln | Ser | Thr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Thr | Met | Gly | Cys | Cys | Gly | Cys | Ser | Arg | Gly | Cys | Gly | Ser | Gly | Cys |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Gly | Gly | Cys | Gly | Ser | Ser | Cys | Gly | Gly | Cys | Gly | Ser | Gly | Cys | Gly | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Cys | Gly | Ser | Gly | Arg | Gly | Gly | Cys | Gly | Ser | Gly | Cys | Gly | Gly | Cys | Ser |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ser | Ser | Cys | Gly | Gly | Cys | Gly | Ser | Arg | Cys | Tyr | Val | Pro | Val | Cys | Cys |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Cys | Lys | Pro | Val | Cys | Ser | Trp | Val | Pro | Ala | Cys | Ser | Cys | Thr | Ser | Cys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Ser | Cys | Gly | Gly | Ser | Lys | Gly | Gly | Cys | Gly | Ser | Cys | Gly | Gly | Ser |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Gly | Gly | Cys | Gly | Ser | Cys | Gly | Cys | Ser | Gln | Ser | Ser | Cys | Cys | Lys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |
| Pro | Cys | Cys | Cys | Ser | Ser | Gly | Cys | Gly | Ser | Ser | Cys | Ser | Gln | Ser | Ser |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |  |
| Cys | Cys | Lys | Pro | Cys | Cys | Cys | Ser | Ser | Gly | Cys | Gly | Ser | Ser | Cys | Cys |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Gln | Ser | Ser | Cys | Cys | Lys | Pro | Tyr | Cys | Cys | Gln | Ser | Ser | Cys | Cys | Lys |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Pro | Cys | Ser | Cys | Phe | Ser | Gly | Cys | Gly | Ser | Ser | Cys | Cys | Gln | Ser | Ser |  |  |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Cys | Tyr | Lys | Pro | Cys | Cys | Cys | Gln | Ser | Ser | Cys | Cys | Val | Pro | Val | Cys |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Cys | Gln | Cys | Lys | Ile |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 225 |     |     | 229 |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3051  
 <211> 1385  
 <212> PRT  
 <213> Homo sapiens

<400> 3051

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asn | Ile | Pro | Arg | Trp | Asn | Phe | Gln | Gly | Lys | Ser | Phe | Gly | Val | Val | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Val | His | Phe | Ser | Ser | Glu | Glu | Val | Asp | Met | Ala | Ser | Asp | Ser | Pro | Ala |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Ser | Leu | Asp | Glu | Ile | Asp | Leu | Ser | Ala | Leu | Arg | Asp | Pro | Ala | Gly |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Ile | Phe | Glu | Leu | Val | Glu | Leu | Val | Gly | Asn | Gly | Thr | Tyr | Gly | Gln | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Tyr | Lys | Gly | Arg | His | Val | Lys | Thr | Gly | Gln | Leu | Ala | Ala | Ile | Lys | Val |  |  |



|   |     |     |     |
|---|-----|-----|-----|
| 65  | 70  | 75  | 80  |
| Met Asp Val Thr Gly Asp Glu Glu Glu Glu Ile Lys Gln Glu Ile Asn |     |     |     |
|   | 85  | 90  | 95  |
| Met Leu Lys Lys Tyr Ser His His Arg Asn Ile Ala Thr Tyr Tyr Gly |     |     |     |
|   | 100 | 105 | 110 |
| Ala Phe Ile Lys Lys Asn Pro Pro Gly Met Asp Asp Gln Leu Trp Leu |     |     |     |
|   | 115 | 120 | 125 |
| Val Met Glu Phe Cys Gly Ala Gly Ser Val Thr Asp Leu Ile Lys Asn |     |     |     |
|   | 130 | 135 | 140 |
| Thr Lys Gly Tyr Thr Leu Lys Glu Glu Trp Ile Ala Tyr Ile Cys Arg |     |     |     |
|   | 145 | 150 | 155 |
| Glu Ile Leu Arg Gly Leu Ser His Leu His Gln His Lys Val Ile His |     |     |     |
|   | 165 | 170 | 175 |
| Arg Asp Ile Lys Gly Gln Asn Val Leu Leu Thr Glu Asn Ala Glu Val |     |     |     |
|   | 180 | 185 | 190 |
| Lys Leu Val Asp Phe Gly Val Ser Ala Gln Leu Asp Arg Thr Val Gly |     |     |     |
|   | 195 | 200 | 205 |
| Arg Arg Asn Thr Phe Ile Gly Thr Pro Tyr Trp Met Ala Pro Glu Val |     |     |     |
|   | 210 | 215 | 220 |
| Ile Ala Cys Asp Glu Asn Pro Asp Ala Thr Tyr Asp Phe Lys Ser Asp |     |     |     |
|   | 225 | 230 | 235 |
| Leu Trp Ser Leu Gly Ile Thr Ala Ile Glu Met Ala Glu Gly Ala Pro |     |     |     |
|   | 245 | 250 | 255 |
| Pro Leu Cys Asp Met His Pro Met Arg Ala Leu Phe Leu Ile Pro Arg |     |     |     |
|   | 260 | 265 | 270 |
| Asn Pro Ala Pro Arg Leu Lys Ser Lys Lys Trp Ser Lys Lys Phe Gln |     |     |     |
|   | 275 | 280 | 285 |
| Ser Phe Ile Glu Ser Cys Leu Val Lys Asn His Ser Gln Arg Pro Ala |     |     |     |
|   | 290 | 295 | 300 |
| Thr Glu Gln Leu Met Lys His Pro Phe Ile Arg Asp Gln Pro Asn Glu |     |     |     |
|   | 305 | 310 | 315 |
| Arg Gln Val Arg Ile Gln Leu Lys Asp His Ile Asp Arg Thr Lys Lys |     |     |     |
|   | 325 | 330 | 335 |
| Lys Arg Gly Glu Lys Asp Glu Thr Glu Tyr Glu Tyr Ser Gly Ser Glu |     |     |     |
|   | 340 | 345 | 350 |
| Glu Glu Glu Glu Glu Asn Asp Ser Gly Glu Pro Ser Ser Ile Leu Asn |     |     |     |
|   | 355 | 360 | 365 |
| Leu Pro Gly Glu Ser Thr Leu Arg Arg Asp Phe Leu Arg Leu Gln Leu |     |     |     |
|   | 370 | 375 | 380 |
| Ala Asn Lys Glu Arg Ser Glu Ala Leu Arg Arg Gln Gln Leu Glu Gln |     |     |     |
|   | 385 | 390 | 395 |
| Gln Gln Arg Glu Asn Glu Glu His Lys Arg Gln Leu Leu Ala Glu Arg |     |     |     |
|   | 405 | 410 | 415 |
| Gln Lys Arg Ile Glu Glu Gln Lys Glu Gln Arg Arg Arg Leu Glu Glu |     |     |     |
|   | 420 | 425 | 430 |
| Gln Gln Arg Arg Glu Lys Glu Leu Arg Lys Gln Gln Glu Arg Glu Gln |     |     |     |
|   | 435 | 440 | 445 |
| Arg Arg His Tyr Glu Glu Gln Met Arg Arg Glu Glu Glu Arg Arg Arg |     |     |     |
|   | 450 | 455 | 460 |
| Ala Glu His Glu Gln Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln |     |     |     |
|   | 465 | 470 | 475 |
| Arg Gln Leu Glu Ile Leu Gln Gln Gln Leu Leu His Glu Gln Ala Leu |     |     |     |
|   | 485 | 490 | 495 |
| Leu Leu Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu |     |     |     |
|   | 500 | 505 | 510 |
| Arg Leu Gln Arg Gln Leu Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu |     |     |     |
|   | 515 | 520 | 525 |
| Gln His Gln Arg Gln Glu Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr |     |     |     |
|   | 530 | 535 | 540 |
| His Tyr Lys Glu Gly Met Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys |     |     |     |
|   | 545 | 550 | 555 |
| Glu Val Glu Glu Arg Ser Arg Leu Asn Arg Gln Ser Ser Pro Ala Met |     |     |     |
|   | 565 | 570 | 575 |
| Pro His Lys Val Ala Asn Arg Ile Ser Asp Pro Asn Leu Pro Pro Arg |     |     |     |

4723

|   |      |      |
|---|------|------|
| 1090  | 1095 | 1100 |
| Tyr Asn Leu Ile Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu |      |      |
| 1105  | 1110 | 1115 |
| Gly Leu Asn Val Leu Val Thr Ile Ser Gly Lys Lys Asn Lys Leu Arg |      | 1120 |
|   | 1125 | 1130 |
| Val Tyr Tyr Leu Ser Trp Leu Arg Asn Arg Ile Leu His Asn Asp Pro |      | 1135 |
|   | 1140 | 1145 |
| Glu Val Glu Lys Lys Gln Gly Trp Ile Thr Val Gly Asp Leu Glu Gly |      | 1150 |
|   | 1155 | 1160 |
| Cys Ile His Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val |      | 1165 |
|   | 1170 | 1175 |
| Ile Ala Leu Lys Asn Ala Val Glu Ile Tyr Ala Trp Ala Pro Lys Pro |      | 1180 |
| 1185  | 1190 | 1195 |
| Tyr His Lys Phe Met Ala Phe Lys Ser Phe Ala Asp Leu Gln His Lys |      | 1200 |
|   | 1205 | 1210 |
| Pro Leu Leu Val Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val |      | 1215 |
|   | 1220 | 1225 |
| Ile Phe Gly Ser His Thr Gly Phe His Val Ile Asp Val Asp Ser Gly |      | 1230 |
|   | 1235 | 1240 |
| Asn Ser Tyr Asp Ile Tyr Ile Pro Ser His Ile Gln Gly Asn Ile Thr |      | 1245 |
|   | 1250 | 1255 |
| Pro His Ala Ile Val Ile Leu Pro Lys Thr Asp Gly Met Glu Met Leu |      | 1260 |
| 1265  | 1270 | 1275 |
| Val Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr Gly Arg Ile |      | 1280 |
|   | 1285 | 1290 |
| Thr Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro Thr Ser Val Ala |      | 1295 |
|   | 1300 | 1305 |
| Tyr Ile His Ser Asn Gln Ile Met Gly Trp Gly Glu Lys Ala Ile Glu |      | 1310 |
|   | 1315 | 1320 |
| Ile Arg Ser Val Glu Thr Gly His Leu Asp Gly Val Phe Met His Lys |      | 1325 |
|   | 1330 | 1335 |
| Arg Ala Gln Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys Val Phe |      | 1340 |
| 1345  | 1350 | 1355 |
| Phe Ala Ser Val Arg Ser Gly Gly Ser Ser Gln Val Phe Phe Met Thr |      | 1360 |
|   | 1365 | 1370 |
| Leu Asn Arg Asn Ser Met Met Asn Trp                             |      | 1375 |
|   | 1380 | 1385 |

&lt;210&gt; 3052

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3052

|   |     |     |
|---|-----|-----|
| Met Gly Gln Val Glu Cys Gly Gly Gln Lys Leu Gly Asn Gln Leu Glu |     |     |
| 1   | 5   | 10  |
| Asp Asp Ser Glu Pro Ala Glu Gly Lys Val Tyr Ser Ser Asp Glu Glu |     | 15  |
|   | 20  | 25  |
| Lys Leu Glu Ala Ser Ala Gly Asp Pro Ala Gly Ser Glu Gln Glu Glu |     | 30  |
|   | 35  | 40  |
| Glu Gly Ser Gly Gly Asp Ser Glu Asp Asp Gly Phe Leu Asp Ser Ser |     | 45  |
|   | 50  | 55  |
| Ala Gly Gly Pro Gly Ala Leu Leu Gly Pro Lys Pro Lys Leu Lys Gly |     | 60  |
|   | 65  | 70  |
| Ser Leu Gly Thr Gly Ala Glu Glu Gly Ala Pro Val Thr Ala Gly Val |     | 75  |
|   | 85  | 90  |
| Thr Ala Pro Gly Gly Lys Ser Arg Arg Arg Arg Thr Ala Phe Thr Ser |     | 95  |
|   | 100 | 105 |
| Glu Gln Leu Leu Glu Leu Glu Lys Glu Phe His Cys Lys Lys Tyr Leu |     | 110 |
|   | 115 | 120 |
| Ser Leu Thr Glu Arg Ser Gln Ile Ala His Ala Leu Lys Leu Ser Glu |     | 125 |

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Val Gln Val Lys Ile Trp Phe Gln Asn Arg Arg Ala Lys Trp Lys Arg |     |     |
| 145   | 150 | 155 |
| Ile Lys Ala Gly Asn Val Ser Ser Arg Ser Gly Glu Pro Val Arg Asn |     | 160 |
|   | 165 | 170 |
| Pro Lys Ile Val Val Pro Ile Pro Val His Val Asn Arg Phe Ala Val |     | 175 |
|   | 180 | 185 |
| Arg Ser Gln His Gln Gln Met Glu Gln Gly Ala Arg Pro             |     | 190 |
|   | 195 | 200 |
|   |     | 205 |

<210> 3053  
 <211> 654  
 <212> PRT  
 <213> Homo sapiens

<400> 3053

|   |     |     |
|---|-----|-----|
| Phe Gly Val Arg Val Pro Ser Asn Thr Gln Cys Leu Val Pro Ser Phe |     |     |
| 1   | 5   | 10  |
| His Cys Met Gln Thr Ser Glu Trp Asp Ser Glu Cys Leu Thr Ser Leu |     | 15  |
|   | 20  | 25  |
| Gln Pro Leu Pro Leu Pro Thr Pro Pro Ala Ala Asn Glu Ala His Leu |     | 30  |
|   | 35  | 40  |
| Gln Thr Ala Ala Ile Ser Leu Trp Thr Val Val Ala Ala Val Gln Ala |     | 45  |
|   | 50  | 55  |
| Ile Glu Arg Lys Val Glu Ile His Ser Arg Arg Leu Leu His Leu Glu |     | 60  |
| 65  | 70  | 75  |
| Gly Arg Thr Gly Thr Ala Glu Lys Lys Leu Ala Ser Cys Glu Lys Thr |     | 80  |
|   | 85  | 90  |
| Val Thr Glu Leu Gly Asn Gln Leu Glu Gly Lys Gly Ala Val Leu Gly |     | 95  |
|   | 100 | 105 |
| Thr Leu Leu Gln Glu Tyr Gly Leu Leu Gln Arg Arg Leu Glu Asn Leu |     | 110 |
|   | 115 | 120 |
| Glu Asn Leu Leu Arg Asn Arg Asn Phe Trp Ile Leu Arg Leu Pro Pro |     | 125 |
|   | 130 | 135 |
| Gly Ile Lys Gly Asp Ile Pro Lys Val Pro Val Ala Phe Asp Asp Val |     | 140 |
| 145   | 150 | 155 |
| Ser Ile Tyr Phe Ser Thr Pro Glu Trp Glu Lys Leu Glu Glu Trp Gln |     | 160 |
|   | 165 | 170 |
| Lys Glu Leu Tyr Lys Asn Ile Met Lys Gly Asn Tyr Glu Ser Leu Ile |     | 175 |
|   | 180 | 185 |
| Ser Met Asp Tyr Ala Ile Asn Gln Pro Asp Val Leu Ser Gln Ile Gln |     | 190 |
|   | 195 | 200 |
| Pro Glu Gly Glu His Asn Thr Glu Asp Gln Ala Gly Pro Glu Glu Ser |     | 205 |
|   | 210 | 215 |
| Glu Ile Pro Thr Asp Pro Ser Glu Glu Pro Gly Ile Ser Thr Ser Asp |     | 220 |
| 225   | 230 | 235 |
| Ile Leu Ser Trp Ile Lys Gln Glu Glu Glu Pro Gln Val Gly Ala Pro |     | 240 |
|   | 245 | 250 |
| Pro Glu Ser Lys Glu Ser Asp Val Tyr Lys Ser Thr Tyr Ala Asp Glu |     | 255 |
|   | 260 | 265 |
| Glu Leu Val Ile Lys Ala Glu Gly Leu Ala Arg Ser Ser Leu Cys Pro |     | 270 |
|   | 275 | 280 |
| Glu Val Pro Val Pro Phe Ser Ser Pro Pro Ala Ala Ala Lys Asp Ala |     | 285 |
|   | 290 | 295 |
| Phe Ser Asp Val Ala Phe Lys Ser Gln Gln Ser Thr Ser Met Thr Pro |     | 300 |
| 305   | 310 | 315 |
| Phe Gly Arg Pro Ala Thr Asp Leu Pro Glu Ala Ser Glu Gly Gln Val |     | 320 |
|   | 325 | 330 |
| Thr Phe Thr Gln Leu Gly Ser Tyr Pro Leu Pro Pro Pro Val Gly Glu |     | 335 |
|   | 340 | 345 |
| Gln Val Phe Ser Cys His His Cys Gly Lys Asn Leu Ser Gln Asp Met |     | 350 |

|   |                                     |     |
|---|-------------------------------------|-----|
| 355   | 360                                 | 365 |
| Leu Leu Thr His Gln Cys Ser                                     | His Ala Thr Glu His Pro Leu Pro Cys |     |
| 370   | 375                                 | 380 |
| Ala Gln Cys Pro Lys His Phe Thr Pro Gln Ala Asp Leu Ser Ser Thr |                                     |     |
| 385   | 390                                 | 395 |
| Ser Gln Asp His Ala Ser Glu Thr Pro Pro Thr Cys Pro His Cys Ala |                                     | 400 |
|   | 405                                 | 410 |
| Arg Thr Phe Thr His Pro Ser Arg Leu Thr Tyr His Leu Arg Val His |                                     | 415 |
|   | 420                                 | 425 |
| Asn Ser Thr Glu Arg Pro Phe Pro Cys Pro Asp Cys Pro Lys Arg Phe |                                     | 430 |
|   | 435                                 | 440 |
| Ala Asp Gln Ala Arg Leu Thr Ser His Arg Arg Ala His Ala Ser Glu |                                     | 445 |
|   | 450                                 | 455 |
| Arg Pro Phe Arg Cys Ala Gln Cys Gly Arg Ser Phe Ser Leu Lys Ile |                                     | 460 |
| 465   | 470                                 | 475 |
| Ser Leu Leu Leu His Gln Arg Gly His Ala Gln Glu Arg Pro Phe Ser |                                     | 480 |
|   | 485                                 | 490 |
| Cys Pro Gln Cys Gly Ile Asp Phe Asn Gly His Ser Ala Leu Ile Arg |                                     | 495 |
|   | 500                                 | 505 |
| His Gln Met Ile His Thr Gly Glu Arg Pro Tyr Pro Cys Thr Asp Cys |                                     | 510 |
|   | 515                                 | 520 |
| Ser Lys Ser Phe Met Arg Lys Glu His Leu Leu Asn His Arg Arg Leu |                                     | 525 |
|   | 530                                 | 535 |
| His Thr Gly Glu Arg Pro Phe Ser Cys Pro His Cys Gly Lys Ser Phe |                                     | 540 |
| 545   | 550                                 | 555 |
| Ile Arg Lys His His Leu Met Lys His Gln Arg Ile His Thr Gly Glu |                                     | 560 |
|   | 565                                 | 570 |
| Arg Pro Tyr Pro Cys Ser Tyr Cys Gly Arg Ser Phe Arg Tyr Lys Gln |                                     | 575 |
|   | 580                                 | 585 |
| Thr Leu Lys Asp His Leu Arg Ser Gly His Asn Gly Gly Cys Gly Gly |                                     | 590 |
|   | 595                                 | 600 |
| Asp Ser Asp Pro Ser Gly Gln Pro Pro Asn Pro Pro Gly Pro Leu Ile |                                     | 605 |
|   | 610                                 | 615 |
| Thr Gly Leu Glu Thr Ser Gly Leu Gly Val Asn Thr Glu Gly Leu Glu |                                     | 620 |
| 625   | 630                                 | 635 |
| Thr Asn Gln Trp Tyr Gly Glu Gly Ser Gly Gly Gly Val Leu         |                                     | 640 |
|   | 645                                 | 650 |
|   |                                     | 654 |

&lt;210&gt; 3054

&lt;211&gt; 736

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3054

|   |     |     |
|---|-----|-----|
| Ser Cys Gly His Lys Ser Ala Tyr Gly Ser Tyr Thr Gly Leu Gln Leu |     |     |
| 1   | 5   | 10  |
| Phe Trp Glu Asp Gly Gln Glu Leu Leu Gln His Gln Gln Leu Gln Asp |     | 15  |
|   | 20  | 25  |
| Leu Arg Leu Cys Val His Leu Arg Pro Gln Ser Glu Lys Val Glu Leu |     | 30  |
|   | 35  | 40  |
| Ser Leu Trp Thr Leu Phe Val Val Gly Lys Gly Glu Pro Ser Ala Val |     | 45  |
|   | 50  | 55  |
| Arg Glu Lys Leu Gly Lys Ala Gly Phe Ala Ala Ala Ser Gly Pro Gly |     | 60  |
| 65  | 70  | 75  |
| Gly Arg Pro Gly Ala Glu Arg Ala Ser Thr Val Leu Asn Ile Leu His |     | 80  |
|   | 85  | 90  |
| Leu Thr Ala Glu Ser Arg Trp Glu Pro Asn Ala Cys Asn Arg Val Ser |     | 95  |
|   | 100 | 105 |
| Ser Ser Pro Ala Gly Val Gly Pro Leu Asp Leu Pro Val Gly Pro Leu |     | 110 |
|   | 115 | 120 |
| Leu Tyr Phe Phe Ala Pro Trp Ala Arg Ala Ser Phe Leu Cys His Ala |     | 125 |



|   |   |     |
|---|---|-----|
| 130   | 135                                     | 140 |
| Phe Gln Arg Pro Leu Thr   | Gly Ile Gly Leu Asn Thr Val Arg Phe Thr |     |
| 145   | 150                                     | 155 |
| Ser Glu Phe Pro Leu His Ser Lys Asp Pro Thr Ala His Lys Leu Leu |   | 160 |
|   | 165                                     | 170 |
| Phe Thr Gly Asn Tyr Leu Cys Lys Leu His Pro Arg Pro Arg His Ala |   | 175 |
|   | 180                                     | 185 |
| Pro Gln Gly Ser Leu Ser Asp Phe Cys His Gly Thr Glu Gly Lys Asp |   | 190 |
|   | 195                                     | 200 |
| Leu Pro Ser Glu His Asn Val Ser Val Glu Gly Val Ala Gln Asp Arg |   | 205 |
|   | 210                                     | 215 |
| Ser Pro Glu Ala Thr Leu Cys Pro Gln Lys Thr Cys Pro Cys Asp Ile |   | 220 |
| 225   | 230                                     | 235 |
| Cys Gly Leu Arg Leu Lys Asp Ile Leu His Leu Ala Glu His Gln Thr |   | 240 |
|   | 245                                     | 250 |
| Thr His Pro Arg Gln Lys Pro Phe Val Cys Glu Ala Tyr Val Lys Gly |   | 255 |
|   | 260                                     | 265 |
| Ser Glu Phe Ser Ala Asn Leu Pro Arg Lys Gln Val Gln Gln Asn Val |   | 270 |
|   | 275                                     | 280 |
| His Asn Pro Ile Arg Thr Glu Glu Gly Gln Ala Ser Pro Val Lys Thr |   | 285 |
|   | 290                                     | 295 |
| Cys Arg Asp His Thr Ser Asp Gln Leu Ser Thr Cys Arg Glu Gly Gly |   | 300 |
| 305   | 310                                     | 315 |
| Lys Asp Phe Val Ala Thr Ala Gly Phe Leu Gln Cys Glu Val Thr Pro |   | 320 |
|   | 325                                     | 330 |
| Ser Asp Gly Glu Pro His Glu Ala Thr Glu Gly Val Val Asp Phe His |   | 335 |
|   | 340                                     | 345 |
| Ile Ala Leu Arg His Asn Lys Cys Cys Glu Ser Gly Asp Ala Phe Asn |   | 350 |
|   | 355                                     | 360 |
| Asn Lys Ser Thr Leu Val Gln His Gln Arg Ile His Ser Arg Glu Arg |   | 365 |
|   | 370                                     | 375 |
| Pro Tyr Glu Cys Ser Lys Cys Gly Ile Phe Phe Thr Tyr Ala Ala Asp |   | 380 |
| 385   | 390                                     | 395 |
| Leu Thr Gln His Gln Lys Val His Asn Arg Gly Lys Pro Tyr Glu Cys |   | 400 |
|   | 405                                     | 410 |
| Cys Glu Cys Gly Lys Phe Phe Ser Gln His Ser Ser Leu Val Lys His |   | 415 |
|   | 420                                     | 425 |
| Arg Arg Val His Thr Gly Glu Ser Pro His Val Cys Gly Asp Cys Gly |   | 430 |
|   | 435                                     | 440 |
| Lys Phe Phe Ser Arg Ser Ser Asn Leu Ile Gln His Lys Arg Val His |   | 445 |
|   | 450                                     | 455 |
| Thr Gly Glu Lys Pro Tyr Glu Cys Ser Asp Cys Gly Lys Phe Phe Ser |   | 460 |
| 465   | 470                                     | 475 |
| Gln Arg Ser Asn Leu Ile His His Lys Arg Val His Thr Gly Arg Ser |   | 480 |
|   | 485                                     | 490 |
| Ala His Glu Cys Ser Glu Cys Gly Lys Ser Phe Asn Cys Asn Ser Ser |   | 495 |
|   | 500                                     | 505 |
| Leu Ile Lys His Trp Arg Val His Thr Gly Glu Arg Pro Tyr Lys Cys |   | 510 |
|   | 515                                     | 520 |
| Asn Glu Cys Gly Lys Phe Phe Ser His Ile Ala Ser Leu Ile Gln His |   | 525 |
|   | 530                                     | 535 |
| Gln Ile Val His Thr Gly Glu Arg Pro His Gly Cys Gly Glu Cys Gly |   | 540 |
| 545   | 550                                     | 555 |
| Lys Ala Phe Ile Arg Ser Ser Asp Leu Met Lys His Gln Arg Val His |   | 560 |
|   | 565                                     | 570 |
| Thr Gly Glu Arg Pro Tyr Glu Cys Asn Glu Cys Gly Lys Leu Phe Ser |   | 575 |
|   | 580                                     | 585 |
| Gln Ser Ser Ser Leu Asn Ser His Arg Arg Leu His Thr Gly Glu Arg |   | 590 |
|   | 595                                     | 600 |
| Pro Tyr Gln Cys Ser Glu Cys Gly Lys Phe Phe Asn Gln Ser Ser Ser |   | 605 |
|   | 610                                     | 615 |
| Leu Asn Asn His Arg Arg Leu His Thr Gly Glu Arg Pro Tyr Glu Cys |   | 620 |
| 625   | 630                                     | 635 |
| Ser Glu Cys Gly Lys Thr Phe Arg Gln Arg Ser Asn Leu Arg Gln His |   | 640 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Leu | Lys | Val | His | Lys | Pro | Asp | Arg | Pro | Tyr | Glu | Cys | Ser | Glu | Cys | Gly |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Lys | Ala | Phe | Asn | Gln | Arg | Pro | Thr | Leu | Ile | Arg | His | Gln | Lys | Ile | His |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Ile | Arg | Glu | Arg | Ser | Met | Glu | Asn | Val | Leu | Leu | Pro | Cys | Ser | Gln | His |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Thr | Pro | Glu | Ile | Ser | Ser | Glu | Asn | Arg | Pro | Tyr | Gln | Gly | Ala | Val | Asn |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Tyr | Lys | Leu | Lys | Leu | Val | His | Pro | Ser | Thr | His | Pro | Gly | Glu | Val | Pro |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 | 736 |  |  |

&lt;210&gt; 3055

&lt;211&gt; 895

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3055

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Arg | Arg | Ser | Ser | Ser | Ser | Gln | Gly | Ser | Ala | Ala | Pro | Thr | Pro | Cys |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gln | Val | Val | Glu | Ala | Ser | Arg | Asp | Gln | Leu | Val | Ala | Gly | Pro | Ser | Gly |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Lys | Met | Gly | Asn | Arg | Glu | Met | Glu | Glu | Leu | Ile | Pro | Leu | Val | Asn | Arg |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Leu | Gln | Asp | Ala | Phe | Ser | Ala | Leu | Gly | Gln | Ser | Cys | Leu | Leu | Glu | Leu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Pro | Gln | Ile | Ala | Val | Val | Gly | Gly | Gln | Ser | Ala | Gly | Lys | Ser | Ser | Val |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Leu | Glu | Asn | Phe | Val | Gly | Arg | Asp | Phe | Leu | Pro | Arg | Gly | Ser | Gly | Ile |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Val | Thr | Arg | Arg | Pro | Leu | Val | Leu | Gln | Leu | Val | Thr | Ser | Lys | Ala | Glu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Tyr | Ala | Glu | Phe | Leu | His | Cys | Lys | Gly | Lys | Lys | Phe | Thr | Asp | Phe | Asp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Val | Arg | Leu | Glu | Ile | Glu | Ala | Glu | Thr | Asp | Arg | Val | Thr | Gly | Met |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Asn | Lys | Gly | Ile | Ser | Ser | Ile | Pro | Ile | Asn | Leu | Arg | Val | Tyr | Ser | Pro |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| His | Val | Leu | Asn | Leu | Thr | Leu | Ile | Asp | Leu | Pro | Gly | Ile | Thr | Lys | Val |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Pro | Val | Gly | Asp | Gln | Pro | Pro | Asp | Ile | Glu | Tyr | Gln | Ile | Arg | Met | Ile |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Met | Gln | Phe | Ile | Thr | Arg | Glu | Asn | Cys | Leu | Ile | Leu | Ala | Val | Thr | Pro |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ala | Asn | Thr | Asp | Leu | Ala | Asn | Ser | Asp | Ala | Leu | Lys | Leu | Ala | Lys | Glu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Val | Asp | Pro | Gln | Gly | Leu | Arg | Thr | Ile | Gly | Val | Ile | Thr | Lys | Leu | Asp |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Leu | Met | Asp | Glu | Gly | Thr | Asp | Ala | Arg | Asp | Val | Leu | Glu | Asn | Lys | Leu |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Leu | Pro | Leu | Arg | Arg | Gly | Tyr | Val | Gly | Val | Val | Asn | Arg | Ser | Gln | Lys |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Asp | Ile | Asp | Gly | Lys | Lys | Asp | Ile | Lys | Ala | Ala | Met | Leu | Ala | Glu | Arg |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Lys | Phe | Phe | Leu | Ser | His | Pro | Ala | Tyr | Arg | His | Ile | Ala | Asp | Arg | Met |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gly | Thr | Pro | His | Leu | Gln | Lys | Val | Leu | Asn | Gln | Gln | Leu | Thr | Asn | His |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |  |  |
| Ile | Arg | Asp | Thr | Leu | Pro | Asn | Phe | Arg | Asn | Lys | Leu | Gln | Gly | Gln | Leu |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Leu | Ser | Ile | Glu | His | Glu | Val | Glu | Ala | Tyr | Lys | Asn | Phe | Lys | Pro | Glu |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Asp | Pro | Thr | Arg | Lys | Thr | Lys | Ala | Leu | Leu | Gln | Met | Val | Gln | Gln | Phe |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Ala | Val | Asp | Phe | Glu | Lys | Arg | Ile | Glu | Gly | Ser | Gly | Asp | Gln | Val | Asp |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Thr | Leu | Glu | Leu | Ser | Gly | Gly | Ala | Lys | Ile | Asn | Arg | Ile | Phe | His | Glu |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Arg | Phe | Pro | Phe | Glu | Ile | Val | Lys | Met | Glu | Phe | Asn | Glu | Lys | Glu | Leu |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Arg | Arg | Glu | Ile | Ser | Tyr | Ala | Ile | Lys | Asn | Ile | His | Gly | Ile | Arg | Thr |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Gly | Leu | Phe | Thr | Pro | Asp | Met | Ala | Phe | Glu | Ala | Ile | Val | Lys | Lys | Gln |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Ile | Val | Lys | Leu | Lys | Gly | Pro | Ser | Leu | Lys | Ser | Val | Asp | Leu | Val | Ile |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Gln | Glu | Leu | Ile | Asn | Thr | Val | Lys | Lys | Cys | Thr | Lys | Lys | Leu | Ala | Asn |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Phe | Pro | Arg | Leu | Cys | Glu | Glu | Thr | Glu | Arg | Ile | Val | Ala | Asn | His | Ile |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |
| Arg | Glu | Arg | Glu | Gly | Lys | Thr | Lys | Asp | Gln | Val | Leu | Leu | Leu | Ile | Asp |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Ile | Gln | Val | Ser | Tyr | Ile | Asn | Thr | Asn | His | Glu | Asp | Phe | Ile | Gly | Phe |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Ala | Asn | Ala | Gln | Gln | Arg | Ser | Ser | Gln | Val | His | Lys | Lys | Thr | Thr | Val |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Gly | Asn | Gln | Val | Ile | Arg | Lys | Gly | Trp | Leu | Thr | Ile | Ser | Asn | Ile | Gly |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Ile | Met | Lys | Gly | Gly | Ser | Lys | Gly | Tyr | Trp | Phe | Val | Leu | Thr | Ala | Glu |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |
| Ser | Leu | Ser | Trp | Tyr | Lys | Asp | Asp | Glu | Glu | Lys | Glu | Lys | Lys | Tyr | Met |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Leu | Pro | Leu | Asp | Asn | Leu | Lys | Val | Arg | Asp | Val | Glu | Lys | Ser | Phe | Met |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |  |
| Ser | Ser | Lys | His | Ile | Phe | Ala | Leu | Phe | Asn | Thr | Glu | Gln | Arg | Asn | Val |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Tyr | Lys | Asp | Tyr | Arg | Phe | Leu | Glu | Leu | Ala | Cys | Asp | Ser | Gln | Glu | Asp |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Val | Asp | Ser | Trp | Lys | Ala | Ser | Leu | Leu | Arg | Ala | Gly | Val | Tyr | Pro | Asp |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |
| Lys | Ser | Val | Gly | Asn | Asn | Lys | Ala | Glu | Asn | Asp | Glu | Asn | Gly | Gln | Ala |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Glu | Asn | Phe | Ser | Met | Asp | Pro | Gln | Leu | Glu | Arg | Gln | Val | Glu | Thr | Ile |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |
| Arg | Asn | Leu | Val | Asp | Ser | Tyr | Met | Ser | Ile | Ile | Asn | Lys | Cys | Ile | Arg |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |
| Asp | Leu | Ile | Pro | Lys | Thr | Ile | Met | His | Leu | Met | Ile | Asn | Asn | Val | Lys |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Asp | Phe | Ile | Asn | Ser | Glu | Leu | Leu | Ala | Gln | Leu | Tyr | Ser | Ser | Glu | Asp |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     |     | 735 |     |  |
| Gln | Asn | Thr | Leu | Met | Glu | Glu | Ser | Ala | Glu | Gln | Ala | Gln | Arg | Arg | Asp |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Glu | Met | Leu | Arg | Met | Tyr | Gln | Ala | Leu | Lys | Glu | Ala | Leu | Gly | Ile | Ile |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |
| Gly | Asp | Ile | Gly | Thr | Ala | Thr | Val | Ser | Thr | Pro | Ala | Pro | Pro | Pro | Val |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |
| Asp | Asp | Ser | Trp | Ile | Gln | His | Ser | Arg | Arg | Ser | Pro | Pro | Pro | Ser | Pro |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Thr | Thr | Gln | Arg | Arg | Pro | Thr | Leu | Ser | Ala | Pro | Leu | Ala | Arg | Pro | Thr |  |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |  |
| Ser | Gly | Arg | Gly | Pro | Ala | Pro | Ala | Ile | Pro | Ser | Pro | Gly | Pro | His | Ser |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Gly | Ala | Pro | Pro | Val | Pro | Phe | Arg | Pro | Gly | Pro | Leu | Pro | Pro | Phe | Pro |  |

```
<210> 3056
<211> 54
<212> PRT
<213> Homo sapiens
```

```
<210> 3057
<211> 54
<212> PRT
<213> Homo sapiens
```

```
<210> 3058
<211> 279
<212> PRT
<213> Homo sapiens
```

4730

```
<210> 3059
<211> 170
<212> PRT
<213> Homo sapiens
```

```
<210> 3060
<211> 67
<212> PRT
<213> Homo sapiens
```



&lt;400&gt; 3060

```

Pro Pro Leu Gln Leu Asp Met Asp Pro Asn Cys Tyr Cys Ala Asp Gly
 1          5          10          15
Asp Ser Cys Thr Cys Ala Gly Ser Cys Lys Cys Lys Glu Cys Lys Cys
          20          25          30
Thr Ser Cys Lys Lys Ser Cys Cys Ser Cys Cys Pro Ala Gly Cys Ala
          35          40          45
Lys Cys Ala Gln Gly Cys Ile Cys Lys Gly Ala Thr Asp Lys Cys Ser
          50          55          60
Cys Cys Ala
65          67

```

&lt;210&gt; 3061

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3061

```

Val Arg Arg Asp Val Arg Gln Gln Ala Thr Trp Ala Met Ala Ser Asp
 1          5          10          15
Leu Asp Phe Ser Pro Pro Glu Val Pro Glu Pro Thr Phe Leu Glu Asn
          20          25          30
Leu Leu Arg Tyr Gly Leu Phe Leu Gly Ala Ile Phe Gln Leu Ile Cys
          35          40          45
Val Leu Ala Ile Ile Val Pro Ile Pro Lys Ser His Glu Ala Glu Ala
          50          55          60
Glu Pro Ser Glu Pro Arg Ser Ala Glu Val Thr Arg Lys Pro Lys Ala
          65          70          75          80
Ala Val Pro Ser Val Asn Lys Arg Pro Lys Lys Glu Thr Lys Lys Lys
          85          90          95
Arg
97

```

&lt;210&gt; 3062

&lt;211&gt; 437

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3062

```

Trp Lys Gln Lys Tyr Glu Pro Leu Gly Leu Asp Ala Ala Gly Ile Glu
 1          5          10          15
Glu Ala Ile Thr Ala Val Gly Ser Phe Ile Leu Lys Ala Asn Glu Leu
          20          25          30
Leu Gln Val Ile Asp Ser Ser Met Lys Asn Phe Lys Ala Phe Phe Arg
          35          40          45
Trp Leu Tyr Val Ala Met Leu Arg Met Thr Glu Asp His Val Leu Pro
          50          55          60
Glu Leu Asn Lys Met Thr Gln Lys Asp Ile Thr Phe Val Ala Glu Phe
          65          70          75          80
Leu Thr Glu His Phe Asn Glu Ala Pro Asp Leu Tyr Asn Arg Lys Gly
          85          90          95
Lys Tyr Phe Asn Val Glu Arg Val Gly Gln Tyr Leu Lys Asp Glu Asp
          100          105          110
Asp Asp Leu Val Ser Pro Pro Asn Thr Glu Gly Asn Gln Trp Tyr Asp
          115          120          125
Phe Leu Gln Asn Ser Ser His Leu Lys Glu Ser Pro Leu Leu Phe Pro

```

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Tyr Tyr Pro Arg Lys Ser Leu His Phe Val Lys Arg Arg Met Glu Asn |     |     |
| 145   | 150 | 155 |
| Ile Ile Asp Gln Cys Leu Gln Lys Pro Ala Asp Val Ile Gly Lys Ser |     | 160 |
|   | 165 | 170 |
| Met Asn Gln Ala Ile Cys Ile Pro Leu Tyr Arg Asp Thr Arg Ser Glu |     | 175 |
|   | 180 | 185 |
| Asp Ser Thr Arg Arg Leu Phe Lys Phe Pro Phe Leu Trp Asn Asn Lys |     | 190 |
|   | 195 | 200 |
| Thr Ser Asn Leu His Tyr Leu Leu Phe Thr Ile Leu Glu Asp Ser Leu |     | 205 |
|   | 210 | 215 |
| Tyr Lys Met Cys Ile Leu Arg Arg His Thr Asp Ile Ser Gln Ser Val |     | 220 |
| 225   | 230 | 235 |
| Ser Asn Gly Leu Ile Ala Ile Lys Phe Gly Ser Phe Thr Tyr Ala Thr |     | 240 |
|   | 245 | 250 |
| Thr Glu Lys Val Arg Arg Ser Ile Tyr Ser Cys Leu Asp Ala Gln Phe |     | 255 |
|   | 260 | 265 |
| Tyr Asp Asp Glu Thr Val Thr Val Val Leu Lys Asp Thr Val Gly Arg |     | 270 |
|   | 275 | 280 |
| Glu Gly Arg Asp Arg Leu Leu Val Gln Leu Pro Leu Ser Leu Val Tyr |     | 285 |
|   | 290 | 295 |
| Asn Ser Glu Asp Ser Ala Glu Tyr Gln Phe Thr Gly Thr Tyr Ser Thr |     | 300 |
| 305   | 310 | 315 |
| Arg Leu Asp Glu Gln Cys Ser Ala Ile Pro Thr Arg Thr Met His Phe |     | 320 |
|   | 325 | 330 |
| Glu Lys His Trp Arg Leu Leu Glu Ser Met Lys Ala Gln Tyr Val Ala |     | 335 |
|   | 340 | 345 |
| Gly Asn Gly Phe Arg Lys Val Ser Cys Val Leu Ser Ser Asn Leu Arg |     | 350 |
|   | 355 | 360 |
| His Val Arg Val Phe Glu Met Asp Ile Asp Asp Glu Trp Glu Leu Asp |     | 365 |
|   | 370 | 375 |
| Glu Ser Ser Asp Glu Glu Glu Glu Ala Ser Asn Lys Pro Val Lys Ile |     | 380 |
| 385   | 390 | 395 |
| Lys Glu Glu Val Leu Ser Glu Ser Glu Ala Glu Asn Gln Gln Ala Gly |     | 400 |
|   | 405 | 410 |
| Ala Ala Ala Leu Ala Pro Glu Ile Val Ile Lys Val Glu Lys Leu Asp |     | 415 |
|   | 420 | 425 |
| Pro Glu Leu Asp Ser   |     | 430 |
|   | 435 | 437 |

&lt;210&gt; 3063

&lt;211&gt; 266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3063

|   |     |
|---|-----|
| Asp Lys Met Pro Ser Ile Phe Ala Tyr Gln Ser Ser Glu Val Asp Trp |     |
| 1   | 5   |
| Cys Glu Ser Asn Phe Gln Tyr Ser Glu Leu Val Ala Glu Phe Tyr Asn | 10  |
|   | 15  |
|   | 20  |
| Thr Phe Ser Asn Ile Pro Phe Phe Ile Phe Gly Pro Leu Met Met Leu | 25  |
|   | 30  |
|   | 35  |
| Leu Met His Pro Tyr Ala Gln Lys Arg Ser Arg Tyr Ile Tyr Val Val | 40  |
|   | 45  |
|   | 50  |
| Trp Val Leu Phe Met Ile Ile Gly Leu Phe Ser Met Tyr Phe His Met | 55  |
|   | 60  |
|   | 65  |
| Thr Leu Ser Phe Leu Gly Gln Leu Leu Asp Glu Ile Ala Ile Leu Trp | 70  |
|   | 75  |
|   | 80  |
|   | 85  |
| Leu Leu Gly Ser Gly Tyr Ser Ile Trp Met Pro Arg Cys Tyr Phe Pro | 90  |
|   | 95  |
|   | 100 |
| Ser Phe Leu Gly Gly Asn Arg Ser Gln Phe Ile Arg Leu Val Phe Ile | 105 |
|   | 110 |

```
<210> 3064
<211> 199
<212> PRT
<213> Homo sapiens
```

```
<210> 3065
<211> 899
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 3065

```

Leu Ser Thr Ser Leu Thr Gly Ser His Leu Phe Ser Leu Gly Asn His
 1      5      10      15
Ser Thr Arg Glu Asn Leu Asn Ala Gly Asn Phe Asn Phe Pro Ser Glu
      20      25      30
Gly His Leu Val Arg Ser Thr Gly Pro Gly Gly Ser Phe Ala Lys His
      35      40      45
Met Val Ala Gln Cys Val Ser Pro Lys Gly Pro Leu Ala Cys Ser Arg
      50      55      60
Thr Tyr Phe Phe Gly Ala Thr His Val Pro Tyr Leu Gly Gly Asp Ser
      65      70      75      80
Lys Leu Pro Lys Lys Thr Glu Gln Ile Arg Leu Leu Ser Gln Ile Tyr
      85      90      95
Ala Ala Val Ile Glu Ala Val Leu Ala Gly Ile Ala Cys Tyr Ala Lys
      100      105      110
Thr Ser Ser Leu Thr Lys Ala Lys Glu Val Ala Glu Gln Thr Leu Gly
      115      120      125
Ser Gly Leu Asp Ser Phe Glu Leu Ile Pro Phe Lys Ala Ala Leu Arg
      130      135      140
Ser Lys Met Thr Phe His Ile His Ala Val Asn Asn Gln Gly Arg Ile
145      150      155      160
Val Pro Leu Asp Ser Glu Asp Ser Leu Ser Phe Val Lys Thr Ala Cys
      165      170      175
Met Ala Val Tyr Asp Ile Pro Asp Leu Leu Gly Gly Asn Gly Cys Leu
      180      185      190
Gly Ser Val Val Phe Ser Glu Ser Phe Leu Thr Ser Gln Ile Leu Val
      195      200      205
Lys Glu Lys Asp Gly Thr Val Thr Thr Glu Thr Ser Ser Val Val Leu
      210      215      220
Thr Ala Ala Val Pro Arg Phe Cys Ser Trp Leu Val Glu Asp Asn Glu
225      230      235      240
Val Lys Leu Ser Glu Lys Thr His Gln Ala Val Arg Gly Asp Glu Ser
      245      250      255
Phe Leu Gly Thr Tyr Leu Thr Gly Gly Glu Gly Ala Tyr Leu Tyr Ser
      260      265      270
Ser Asn Leu Gln Ser Trp Pro Glu Glu Gly Asn Val His Phe Phe Ser
      275      280      285
Ser Gly Leu Leu Phe Ser His Cys Arg His Gly Ser Ile Ile Ile Ser
      290      295      300
Lys Asp His Met Asn Ser Ile Ser Phe Tyr Asp Gly Asp Ser Thr Ser
305      310      315      320
Thr Val Ala Ala Leu Leu Ile Asp Phe Lys Ser Ser Leu Leu Pro His
      325      330      335
Leu Pro Val His Phe His Gly Ser Ser Asn Phe Leu Met Ile Ala Leu
      340      345      350
Phe Pro Lys Ser Lys Ile Tyr Gln Ala Phe Tyr Ser Glu Val Phe Ser
      355      360      365
Leu Trp Lys Gln Gln Asp Asn Ser Gly Ile Ser Leu Lys Val Ile Gln
      370      375      380
Glu Asp Gly Leu Ser Val Glu Gln Lys Arg Leu His Ser Ser Ala Gln
385      390      395      400
Lys Leu Phe Ser Ala Leu Ser Gln Pro Ala Gly Glu Lys Arg Ser Ser
      405      410      415
Leu Lys Leu Leu Ser Ala Lys Leu Pro Glu Leu Asp Trp Phe Leu Gln
      420      425      430
His Phe Ala Ile Ser Ser Ile Ser Gln Glu Pro Val Met Arg Thr His
      435      440      445
Leu Pro Val Leu Leu Gln Gln Ala Glu Ile Asn Thr Thr His Arg Ile
      450      455      460
Glu Ser Asp Lys Val Ile Ile Ser Ile Val Thr Gly Leu Pro Gly Cys
465      470      475      480
His Ala Ser Glu Leu Cys Ala Phe Leu Val Thr Leu His Lys Glu Cys
      485      490      495
Gly Arg Trp Met Val Tyr Arg Gln Ile Met Asp Ser Ser Glu Cys Phe

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |     |     |     |
| His | Ala | Ala | His | Phe | Gln | Arg | Tyr | Leu | Ser | Ser | Ala | Leu | Glu | Ala | Gln |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Gln | Asn | Arg | Ser | Ala | Arg | Gln | Ser | Ala | Tyr | Ile | Arg | Lys | Lys | Thr | Arg |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Leu | Leu | Val | Val | Leu | Gln | Gly | Tyr | Thr | Asp | Val | Ile | Asp | Val | Val | Gln |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Ala | Leu | Gln | Thr | His | Pro | Asp | Ser | Asn | Val | Lys | Ala | Ser | Phe | Thr | Ile |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     |     | 575 |     |
| Gly | Ala | Ile | Thr | Ala | Cys | Val | Glu | Pro | Met | Ser | Cys | Tyr | Met | Glu | His |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Arg | Phe | Leu | Phe | Pro | Lys | Cys | Leu | Asp | Gln | Cys | Ser | Gln | Gly | Leu | Val |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Ser | Asn | Val | Val | Phe | Thr | Ser | His | Thr | Thr | Glu | Gln | Arg | His | Pro | Leu |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Leu | Val | Gln | Leu | Gln | Ser | Leu | Ile | Arg | Ala | Ala | Asn | Pro | Ala | Ala | Ala |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Phe | Ile | Leu | Ala | Glu | Asn | Gly | Ile | Val | Thr | Arg | Asn | Glu | Asp | Ile | Glu |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Leu | Ile | Leu | Ser | Glu | Asn | Ser | Phe | Ser | Ser | Pro | Glu | Met | Leu | Arg | Ser |
|     |     | 660 |     |     |     |     | 665 |     |     |     |     |     | 670 |     |     |
| Arg | Tyr | Leu | Met | Tyr | Pro | Gly | Trp | Tyr | Glu | Gly | Lys | Leu | Asn | Ala | Gly |
|     | 675 |     |     |     |     | 680 |     |     |     |     |     | 685 |     |     |     |
| Ser | Val | Tyr | Pro | Leu | Met | Val | Gln | Ile | Cys | Val | Trp | Phe | Gly | Arg | Pro |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Leu | Glu | Lys | Thr | Arg | Phe | Val | Ala | Lys | Cys | Lys | Ala | Ile | Gln | Ser | Ser |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Ile | Lys | Pro | Ser | Pro | Phe | Ser | Gly | Asn | Ile | Tyr | His | Ile | Leu | Gly | Lys |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |
| Val | Lys | Phe | Ser | Asp | Ser | Glu | Arg | Thr | Met | Glu | Val | Cys | Tyr | Asn | Thr |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |
| Leu | Ala | Asn | Ser | Leu | Ser | Ile | Met | Pro | Val | Leu | Glu | Gly | Pro | Thr | Pro |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
| Pro | Pro | Asp | Ser | Lys | Ser | Val | Ser | Gln | Asp | Ser | Ser | Gly | Gln | Gln | Glu |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |
| Cys | Tyr | Leu | Val | Phe | Ile | Gly | Cys | Ser | Leu | Lys | Glu | Asp | Ser | Ile | Lys |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |
| Asp | Trp | Leu | Arg | Gln | Ser | Ala | Lys | Gln | Lys | Pro | Gln | Arg | Lys | Ala | Leu |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |
| Lys | Thr | Arg | Gly | Met | Leu | Thr | Gln | Gln | Glu | Ile | Arg | Ser | Ile | His | Val |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |
| Lys | Arg | His | Leu | Glu | Pro | Leu | Pro | Ala | Gly | Tyr | Phe | Tyr | Asn | Gly | Thr |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |
| Gln | Phe | Val | Asn | Phe | Phe | Gly | Asp | Lys | Thr | Asp | Phe | His | Pro | Leu | Met |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| Asp | Gln | Phe | Met | Asn | Asp | Tyr | Val | Glu | Glu | Ala | Asn | Arg | Glu | Ile | Glu |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |
| Lys | Tyr | Asn | Gln | Glu | Leu | Glu | Gln | Gln | Glu | Tyr | His | Asp | Leu | Phe | Glu |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Leu | Lys | Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 899 |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3066

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3066

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ala | Pro | Leu | Arg | Cys | Gln | Pro | Gly | Thr | Arg | Thr | Gln | Pro | Arg | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     | 15  |     |     |     |
| His | Pro | Ala | Ala | Asn | Asp | Pro | Ser | Ala | Ala | Met | Ser | Ala | Ala | Gly | Ala |



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<210> 3067
<211> 338
<212> PRT
<213> Homo sapiens
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4737

|   |     |     |
|---|-----|-----|
| 290   | 295 | 300 |
| Pro Ser Ile Thr Leu Gly Gln Tyr Val Gln Pro Gln Gly Val Ser Val |     |     |
| 305   | 310 | 315 |
| Val Asp Phe Val Arg Phe Glu Cys Gly Glu Gly Glu Glu Ala Ala Glu |     |     |
|   | 325 | 330 |
|   |     | 335 |
| Thr Glu   |     |     |
| 338   |     |     |

<210> 3068  
 <211> 558  
 <212> PRT  
 <213> Homo sapiens

<400> 3068

|   |     |     |
|---|-----|-----|
| Asn Ser Arg Val Trp Gly Pro Trp Thr Glu Pro Ser Ala Gly Ser Leu |     |     |
| 1   | 5   | 10  |
| Arg Pro Met Ala Arg Lys Gln Asn Arg Asn Ser Lys Glu Leu Gly Leu |     |     |
|   | 20  | 25  |
| Val Pro Leu Thr Asp Asp Thr Ser His Ala Gly Pro Pro Gly Pro Gly |     |     |
|   | 35  | 40  |
| Arg Ala Leu Leu Glu Cys Asp His Leu Arg Ser Gly Val Pro Gly Gly |     |     |
|   | 50  | 55  |
| Arg Arg Arg Lys Asp Trp Ser Cys Ser Leu Leu Val Ala Ser Leu Ala |     |     |
|   | 65  | 70  |
| Gly Ala Phe Gly Ser Ser Phe Leu Tyr Gly Tyr Asn Leu Ser Val Val |     |     |
|   | 85  | 90  |
| Asn Ala Pro Thr Pro Tyr Ile Lys Ala Phe Tyr Asn Glu Ser Trp Glu |     |     |
|   | 100 | 105 |
| Arg Arg His Gly Arg Pro Ile Asp Pro Asp Thr Leu Thr Leu Leu Trp |     |     |
|   | 115 | 120 |
| Ser Val Thr Val Ser Ile Phe Ala Ile Gly Gly Leu Val Gly Thr Leu |     |     |
|   | 130 | 135 |
| Ile Val Lys Met Ile Gly Lys Val Leu Gly Arg Lys His Thr Leu Leu |     |     |
|   | 145 | 150 |
| Ala Asn Asn Gly Phe Ala Ile Ser Ala Ala Leu Leu Met Ala Cys Ser |     |     |
|   | 165 | 170 |
| Leu Gln Ala Gly Ala Phe Glu Met Leu Ile Val Gly Arg Phe Ile Met |     |     |
|   | 180 | 185 |
| Gly Ile Asp Gly Gly Val Ala Leu Ser Val Leu Pro Met Tyr Leu Ser |     |     |
|   | 195 | 200 |
| Glu Ile Ser Pro Lys Glu Ile Arg Gly Ser Leu Gly Gln Val Thr Ala |     |     |
|   | 210 | 215 |
| Ile Phe Ile Cys Ile Gly Val Phe Thr Gly Gln Leu Leu Gly Leu Pro |     |     |
|   | 225 | 230 |
| Glu Leu Leu Gly Lys Glu Ser Thr Trp Pro Tyr Leu Phe Gly Val Ile |     |     |
|   | 245 | 250 |
| Val Val Pro Ala Val Val Gln Leu Leu Ser Leu Pro Phe Leu Pro Asp |     |     |
|   | 260 | 265 |
| Ser Pro Arg Tyr Leu Leu Leu Glu Lys His Asn Glu Ala Arg Ala Val |     |     |
|   | 275 | 280 |
| Lys Ala Phe Gln Thr Phe Leu Gly Lys Ala Asp Val Ser Gln Glu Val |     |     |
|   | 290 | 295 |
| Glu Glu Val Leu Ala Glu Ser Arg Val Gln Arg Ser Ile Arg Leu Val |     |     |
|   | 305 | 310 |
| Ser Val Leu Glu Leu Leu Arg Ala Pro Tyr Val Arg Trp Gln Val Val |     |     |
|   | 325 | 330 |
| Thr Val Ile Val Thr Met Ala Cys Tyr Gln Leu Cys Gly Leu Asn Ala |     |     |
|   | 340 | 345 |
| Ile Trp Phe Tyr Thr Asn Ser Ile Phe Gly Lys Ala Gly Ile Pro Pro |     |     |
|   | 355 | 360 |
| Ala Lys Ile Pro Tyr Val Thr Leu Ser Thr Gly Gly Ile Glu Thr Leu |     |     |
|   |     | 365 |

|                         |   |                     |
|-------------------------|---|---------------------|
| 370                     | 375                                     | 380                 |
| Ala Ala Val Phe Ser Gly | Leu Val Ile Glu His                     | Leu Gly Arg Arg Pro |
| 385                     | 390                                     | 395                 |
| Leu Leu Ile Gly Gly Phe | Gly Leu Met Gly Leu Phe Phe Gly Thr Leu | 400                 |
|                         | 405                                     | 410                 |
| Thr Ile Thr Leu Thr Leu | Gln Asp His Ala Pro Trp Val Pro Tyr Leu | 415                 |
|                         | 420                                     | 425                 |
| Ser Ile Val Gly Ile Leu | Ala Ile Ile Ala Ser Phe Cys Ser Gly Pro | 430                 |
|                         | 435                                     | 440                 |
| Gly Gly Ile Pro Phe Ile | Leu Thr Gly Glu Phe Phe Gln Gln Ser Gln | 445                 |
|                         | 450                                     | 455                 |
| Arg Pro Ala Ala Phe Ile | Ile Ala Gly Thr Val Asn Trp Leu Ser Asn | 460                 |
| 465                     | 470                                     | 475                 |
| Phe Ala Val Gly Leu Leu | Phe Pro Phe Ile Gln Lys Ser Leu Asp Thr | 480                 |
|                         | 485                                     | 490                 |
| Tyr Cys Phe Leu Val Phe | Ala Thr Ile Cys Ile Thr Gly Ala Ile Tyr | 495                 |
|                         | 500                                     | 505                 |
| Leu Tyr Phe Val Leu Pro | Glu Thr Lys Asn Arg Thr Tyr Ala Glu Ile | 510                 |
|                         | 515                                     | 520                 |
| Ser Gln Ala Phe Ser Lys | Arg Asn Lys Ala Tyr Pro Pro Glu Glu Lys | 525                 |
|                         | 530                                     | 535                 |
| Ile Asp Ser Ala Val Thr | Asp Gly Lys Ile Asn Gly Arg Pro         | 540                 |
| 545                     | 550                                     | 555                 |
|                         |   | 558                 |

<210> 3069  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3069  |
| Ala Ala Gly Ala Val Val Ser Ala Met Pro Lys Ala Lys Gly Lys Thr |
| 1 5 10 15   |
| Arg Arg Gln Lys Phe Gly Tyr Ser Val Asn Arg Lys Arg Leu Asn Arg |
| 20 25 30  |
| Asn Ala Arg Arg Lys Ala Ala Pro Arg Ile Glu Cys Ser His Ile Arg |
| 35 40 45  |
| His Ala Trp Asp His Ala Lys Ser Val Arg Gln Asn Leu Ala Glu Met |
| 50 55 60  |
| Gly Leu Ala Val Asp Pro Asn Arg Ala Val Pro Leu Arg Lys Arg Lys |
| 65 70 75 80   |
| Val Lys Ala Met Glu Val Asp Ile Glu Glu Arg Pro Lys Glu Leu Val |
| 85 90 95  |
| Arg Lys Pro Tyr Val Leu Asn Asp Leu Glu Ala Glu Ala Ser Leu Pro |
| 100 105 110   |
| Glu Lys Lys Gly Asn Thr Leu Ser Arg Asp Leu Ile Asp Tyr Val Arg |
| 115 120 125   |
| Tyr Met Val Glu Asn His Gly Glu Asp Tyr Lys Ala Met Ala Arg Asp |
| 130 135 140   |
| Glu Lys Asn Tyr Tyr Gln Asp Thr Pro Lys Gln Ile Arg Ser Lys Ile |
| 145 150 155 160   |
| Asn Val Tyr Lys Arg Phe Tyr Pro Ala Glu Trp Gln Asp Phe Leu Asp |
| 165 170 175   |
| Ser Leu Gln Lys Arg Lys Met Glu Val Glu                         |
| 180 185 186   |

<210> 3070  
 <211> 565  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3070

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Leu Ala Glu Pro Glu Val Ala Thr Asp Ser Gly Gln Gln Ala Asp Leu
 1          5          10          15
Pro Ala Glu Gly Gly Asp Pro Arg Ala Glu Ala Ser Cys Ser Val Leu
          20          25          30
His Ser Lys Pro His Ala Met Ala Asp Ser Arg Asp Pro Ala Ser Asp
          35          40          45
Gln Met Gln His Trp Lys Glu Gln Arg Ala Ala Gln Lys Ala Asp Val
          50          55          60
Leu Thr Thr Gly Ala Gly Asn Pro Val Gly Asp Lys Leu Asn Val Ile
          65          70          75          80
Thr Val Gly Pro Arg Gly Pro Leu Leu Val Gln Asp Val Val Phe Thr
          85          90          95
Asp Glu Met Ala His Phe Asp Arg Glu Arg Ile Pro Glu Arg Val Val
          100          105          110
His Ala Lys Gly Ala Gly Ala Phe Gly Tyr Phe Glu Val Thr His Asp
          115          120          125
Ile Thr Lys Tyr Ser Lys Ala Lys Val Phe Glu His Ile Gly Lys Lys
          130          135          140
Thr Pro Ile Ala Val Arg Phe Ser Thr Val Ala Gly Glu Ser Gly Ser
          145          150          155          160
Ala Asp Thr Val Arg Asp Pro Arg Gly Phe Ala Val Lys Phe Tyr Thr
          165          170          175
Glu Asp Gly Asn Trp Asp Leu Val Gly Asn Asn Thr Pro Ile Phe Phe
          180          185          190
Ile Arg Asp Pro Ile Leu Phe Pro Ser Phe Ile His Ser Gln Lys Arg
          195          200          205
Asn Pro Gln Thr His Leu Lys Asp Pro Asp Met Val Trp Asp Phe Trp
          210          215          220
Ser Leu Arg Pro Glu Ser Leu His Gln Val Ser Phe Leu Phe Ser Asp
          225          230          235          240
Arg Gly Ile Pro Asp Gly His Arg His Met Asn Gly Tyr Gly Ser His
          245          250          255
Thr Phe Lys Leu Val Asn Ala Asn Gly Glu Ala Val Tyr Cys Lys Phe
          260          265          270
His Tyr Lys Thr Asp Gln Gly Ile Lys Asn Leu Ser Val Glu Asp Ala
          275          280          285
Ala Arg Leu Ser Gln Glu Asp Pro Asp Tyr Gly Ile Arg Asp Leu Phe
          290          295          300
Asn Ala Ile Ala Thr Gly Lys Tyr Pro Ser Trp Thr Phe Tyr Ile Gln
          305          310          315          320
Val Met Thr Phe Asn Gln Ala Glu Thr Phe Pro Phe Asn Pro Phe Asp
          325          330          335
Leu Thr Lys Val Trp Pro His Lys Asp Tyr Pro Leu Ile Pro Val Gly
          340          345          350
Lys Leu Val Leu Asn Arg Asn Pro Val Asn Tyr Phe Ala Glu Val Glu
          355          360          365
Gln Ile Ala Phe Asp Pro Ser Asn Met Pro Pro Gly Ile Glu Ala Ser
          370          375          380
Pro Asp Lys Met Leu Gln Gly Arg Leu Phe Ala Tyr Pro Asp Thr His
          385          390          395          400
Arg His Arg Leu Gly Pro Asn Tyr Leu His Ile Pro Val Asn Cys Pro
          405          410          415
Tyr Arg Ala Arg Val Ala Asn Tyr Gln Arg Asp Gly Pro Met Cys Met
          420          425          430
Gln Asp Asn Gln Gly Gly Ala Pro Asn Tyr Tyr Pro Asn Ser Phe Gly
          435          440          445
Ala Pro Glu Gln Gln Pro Ser Ala Leu Glu His Ser Ile Gln Tyr Ser
          450          455          460
Gly Glu Val Arg Arg Phe Asn Thr Ala Asn Asp Asp Asn Val Thr Gln
          465          470          475          480
Val Arg Ala Phe Tyr Val Asn Val Leu Asn Glu Glu Gln Arg Lys Arg

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<210> 3071
<211> 395
<212> PRT
<213> Homo sapiens
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4741



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Arg | Arg | Lys | His | Asn | Tyr | Leu | Pro | Phe | Ile | Met | Glu | Leu | Leu | Lys | Thr |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Ala | Glu | His | Gln | Gln | Leu | Ile | Pro | Leu | Val | Glu | Lys | Ala | Lys | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Lys | Gln | Asn | Ala | Lys | Lys | Ala | Gln | Glu | Thr | Lys |     |     |     |     |     |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     |

<210> 3072  
 <211> 891  
 <212> PRT  
 <213> Homo sapiens

<400> 3072

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Arg | Thr | Leu | Ala | Pro | Pro | Gly | Leu | Leu | Leu | Gly | Pro | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Val | Pro | Asp | Ser | Arg | Arg | Arg | His | Gln | Ala | Ser | Leu | Thr | Pro | Leu | His |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ile | Ser | Gly | Ser | Pro | Gln | Leu | Val | Gly | Arg | Gly | Asp | Arg | Lys | Leu | Arg |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Thr | Glu | Val | Leu | Val | Pro | Pro | Ala | Ala | Leu | Pro | Ala | Glu | Thr | Arg | Gln |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Arg | Arg | Ser | Glu | Arg | Leu | Pro | Arg | Arg | Thr | Cys | Pro | Arg | Gly | Gly | Ala |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     |     | 80  |
| Pro | Gly | Pro | Gly | Arg | Ser | Arg | Leu | Pro | Arg | Ser | Leu | Pro | Pro | Pro | Ser |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |     |
| Ala | Ile | Pro | Gly | Leu | Arg | Ser | Pro | Val | Trp | Ala | Ala | Gly | Leu | Gly | Gly |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gly | Gly | Arg | Arg | Glu | Pro | Ser | Arg | Gly | Lys | Gly | Gly | Ala | Ala | Leu | Arg |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ala | Arg | His | Arg | Ser | Thr | Met | Ala | Glu | Leu | Gly | Ala | Gly | Gly | Asp | Gly |
| 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |     |
| His | Arg | Gly | Gly | Asp | Gly | Ala | Val | Arg | Ser | Glu | Thr | Ala | Pro | Asp | Ser |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |
| Tyr | Lys | Val | Gln | Asp | Lys | Lys | Asn | Ala | Ser | Ser | Arg | Pro | Ala | Ser | Ala |
|     |     | 165 |     |     |     |     | 170 |     |     |     |     |     |     | 175 |     |
| Ile | Ser | Gly | Gln | Asn | Asn | Asn | His | Ser | Gly | Asn | Lys | Pro | Asp | Pro | Pro |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Pro | Val | Leu | Arg | Val | Asp | Asp | Arg | Gln | Arg | Leu | Ala | Arg | Glu | Arg | Arg |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Glu | Glu | Arg | Glu | Lys | Gln | Leu | Ala | Ala | Arg | Glu | Ile | Val | Trp | Leu | Glu |
| 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Arg | Glu | Glu | Arg | Ala | Arg | Gln | His | Tyr | Glu | Lys | His | Leu | Glu | Glu | Arg |
| 225 |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |     |
| Lys | Lys | Arg | Leu | Glu | Glu | Gln | Arg | Gln | Lys | Glu | Glu | Arg | Arg | Arg | Ala |
|     |     | 245 |     |     |     |     | 250 |     |     |     |     |     |     | 255 |     |
| Ala | Val | Glu | Glu | Lys | Arg | Arg | Gln | Arg | Leu | Glu | Glu | Asp | Lys | Glu | Arg |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| His | Glu | Ala | Val | Val | Arg | Arg | Thr | Met | Glu | Arg | Ser | Gln | Lys | Pro | Lys |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Lys | His | Asn | Arg | Trp | Ser | Trp | Gly | Gly | Ser | Leu | His | Gly | Ser | Pro |
| 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |     |     |
| Ser | Ile | His | Ser | Ala | Asp | Pro | Asp | Arg | Arg | Ser | Val | Ser | Thr | Met | Asn |
| 305 |     |     |     | 310 |     |     |     | 315 |     |     |     |     |     | 320 |     |
| Leu | Ser | Lys | Tyr | Val | Asp | Pro | Val | Ile | Ser | Lys | Arg | Leu | Ser | Ser | Ser |
|     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |     |
| Ser | Ala | Thr | Leu | Leu | Asn | Ser | Pro | Asp | Arg | Ala | Arg | Arg | Leu | Gln | Leu |
|     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Ser | Pro | Trp | Glu | Ser | Ser | Val | Val | Asn | Arg | Leu | Leu | Thr | Pro | Thr | His |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Ser | Phe | Leu | Ala | Arg | Ser | Lys | Ser | Thr | Ala | Ala | Leu | Ser | Gly | Glu | Ala |

|   |     |     |
|---|-----|-----|
| 370   | 375 | 380 |
| Val Ile Pro Ile Cys Pro Arg Ser Ala Ser Cys Ser Pro Ile Ile Met |     |     |
| 385   | 390 | 395 |
| Pro Tyr Lys Ala Ala His Ser Arg Asn Ser Met Asp Arg Pro Lys Leu |     | 400 |
|   | 405 | 410 |
| Phe Val Thr Pro Pro Glu Gly Ser Ser Arg Arg Arg Ile Ile His Gly |     | 415 |
|   | 420 | 425 |
| Thr Ala Ser Tyr Lys Lys Glu Arg Glu Arg Glu Asn Val Leu Phe Leu |     | 430 |
|   | 435 | 440 |
| Thr Ser Gly Thr Arg Arg Ala Val Ser Pro Ser Asn Pro Lys Ala Arg |     | 445 |
|   | 450 | 455 |
| Gln Pro Ala Arg Ser Arg Leu Trp Leu Pro Ser Lys Ser Leu Pro His |     | 460 |
| 465   | 470 | 475 |
| Leu Pro Gly Thr Pro Arg Pro Thr Ser Ser Leu Pro Pro Gly Ser Val |     | 480 |
|   | 485 | 490 |
| Lys Ala Ala Pro Ala Gln Val Arg Pro Pro Ser Pro Gly Asn Ile Arg |     | 495 |
|   | 500 | 505 |
| Pro Val Lys Arg Glu Val Lys Val Glu Pro Glu Lys Lys Asp Pro Glu |     | 510 |
|   | 515 | 520 |
| Lys Glu Pro Gln Lys Val Ala Asn Glu Pro Ser Leu Lys Gly Arg Ala |     | 525 |
|   | 530 | 535 |
| Pro Leu Val Lys Val Glu Glu Ala Thr Val Glu Glu Arg Thr Pro Ala |     | 540 |
| 545   | 550 | 555 |
| Glu Pro Glu Val Gly Pro Ala Ala Pro Ala Met Ala Pro Ala Pro Ala |     | 560 |
|   | 565 | 570 |
| Ser Ala Pro Ala Pro Ala Ser Ala Pro Ala Pro Ala Pro Val Pro Thr |     | 575 |
|   | 580 | 585 |
| Pro Ala Met Val Ser Ala Pro Ser Ser Thr Val Asn Ala Ser Ala Ser |     | 590 |
|   | 595 | 600 |
| Val Lys Thr Ser Ala Gly Thr Thr Asp Pro Glu Glu Ala Thr Arg Leu |     | 605 |
|   | 610 | 615 |
| Leu Ala Glu Lys Arg Arg Leu Ala Arg Glu Gln Arg Glu Lys Glu Glu |     | 620 |
| 625   | 630 | 635 |
| Arg Glu Arg Arg Glu Gln Glu Glu Leu Glu Arg Gln Lys Arg Glu Glu |     | 640 |
|   | 645 | 650 |
| Leu Ala Gln Arg Val Ala Glu Glu Arg Thr Thr Arg Arg Glu Glu Glu |     | 655 |
|   | 660 | 665 |
| Ser Arg Arg Leu Glu Ala Glu Gln Ala Arg Glu Lys Glu Glu Gln Leu |     | 670 |
|   | 675 | 680 |
| Gln Arg Gln Ala Glu Glu Arg Ala Leu Arg Glu Trp Glu Glu Ala Glu |     | 685 |
|   | 690 | 695 |
| Arg Ala Gln Arg Gln Lys Glu Glu Glu Ala Arg Val Arg Glu Glu Ala |     | 700 |
| 705   | 710 | 715 |
| Glu Arg Val Arg Gln Glu Arg Glu Lys His Phe Gln Arg Glu Glu Gln |     | 720 |
|   | 725 | 730 |
| Glu Arg Leu Glu Arg Lys Lys Arg Leu Glu Glu Ile Met Lys Arg Thr |     | 735 |
|   | 740 | 745 |
| Arg Arg Thr Glu Ala Thr Asp Lys Lys Thr Ser Asp Gln Arg Asn Gly |     | 750 |
|   | 755 | 760 |
| Asp Ile Ala Lys Gly Ala Leu Thr Gly Gly Thr Glu Val Ser Ala Leu |     | 765 |
|   | 770 | 775 |
| Pro Cys Thr Thr Asn Ala Pro Gly Asn Gly Lys Pro Val Gly Ser Pro |     | 780 |
| 785   | 790 | 795 |
| His Val Val Thr Ser His Gln Ser Lys Val Thr Val Glu Ser Thr Pro |     | 800 |
|   | 805 | 810 |
| Asp Leu Glu Lys Gln Pro Asn Glu Asn Gly Val Ser Val Gln Asn Glu |     | 815 |
|   | 820 | 825 |
| Asn Phe Glu Glu Ile Ile Asn Leu Pro Ile Gly Ser Lys Pro Ser Arg |     | 830 |
|   | 835 | 840 |
| Leu Asp Val Thr Asn Ser Glu Ser Pro Glu Ile Pro Leu Asn Pro Ile |     | 845 |
|   | 850 | 855 |
| Leu Ala Phe Asp Asp Glu Gly Thr Leu Gly Pro Leu Pro Gln Val Asp |     | 860 |
| 865   | 870 | 875 |
| Gly Val Gln Thr Gln Gln Thr Ala Glu Val Ile                     |     | 880 |

885

890 891

<210> 3073  
 <211> 783  
 <212> PRT  
 <213> Homo sapiens

<400> 3073  
 Pro Pro Arg Val Cys Arg Asp His Val Cys Leu Ile Cys Trp Asp Pro  
 1 5 10 15  
 Ile Ala Gly Thr Gly Gly Ser Arg Ser Thr Met Pro Ala Leu Pro Leu  
 20 25 30  
 Asp Gln Leu Gln Ile Thr His Lys Asp Pro Lys Thr Gly Lys Leu Arg  
 35 40 45  
 Thr Ser Pro Ala Leu His Pro Glu Gln Lys Ala Asp Arg Tyr Phe Val  
 50 55 60  
 Leu Tyr Lys Pro Pro Pro Lys Asp Asn Ile Pro Ala Leu Val Glu Glu  
 65 70 75 80  
 Tyr Leu Glu Arg Ala Thr Phe Val Ala Asn Asp Leu Asp Trp Leu Leu  
 85 90 95  
 Ala Leu Pro His Asp Lys Phe Trp Cys Gln Val Ile Phe Asp Glu Thr  
 100 105 110  
 Leu Gln Lys Cys Leu Asp Ser Tyr Leu Arg Tyr Val Pro Arg Lys Phe  
 115 120 125  
 Asp Glu Gly Val Ala Ser Ala Pro Glu Val Val Asp Met Gln Lys Arg  
 130 135 140  
 Leu His Arg Ser Val Phe Leu Thr Phe Leu Arg Met Ser Thr His Lys  
 145 150 155 160  
 Glu Ser Lys Asp His Phe Ile Ser Pro Ser Ala Phe Gly Glu Ile Leu  
 165 170 175  
 Tyr Asn Asn Phe Leu Phe Asp Ile Pro Lys Ile Leu Asp Leu Cys Val  
 180 185 190  
 Leu Phe Gly Lys Gly Asn Ser Pro Leu Leu Gln Lys Met Ile Gly Asn  
 195 200 205  
 Ile Phe Thr Gln Gln Pro Ser Tyr Tyr Ser Asp Leu Asp Glu Thr Leu  
 210 215 220  
 Pro Thr Ile Leu Gln Val Phe Ser Asn Ile Leu Gln His Cys Gly Leu  
 225 230 235 240  
 Gln Gly Asp Gly Ala Asn Thr Thr Pro Gln Lys Leu Glu Glu Arg Gly  
 245 250 255  
 Arg Leu Thr Pro Ser Asp Met Pro Leu Leu Glu Leu Lys Asp Ile Val  
 260 265 270  
 Leu Tyr Leu Cys Asp Thr Cys Thr Thr Leu Trp Ala Phe Leu Asp Ile  
 275 280 285  
 Phe Pro Leu Ala Cys Gln Thr Phe Gln Lys His Asp Phe Cys Tyr Arg  
 290 295 300  
 Leu Ala Ser Phe Tyr Glu Ala Ala Ile Pro Glu Met Glu Ser Ala Ile  
 305 310 315 320  
 Lys Lys Arg Arg Leu Glu Asp Ser Lys Leu Leu Gly Asp Leu Trp Gln  
 325 330 335  
 Arg Leu Ser His Ser Arg Lys Lys Leu Met Glu Ile Phe His Ile Ile  
 340 345 350  
 Leu Asn Gln Ile Cys Leu Leu Pro Ile Leu Glu Ser Ser Cys Asp Asn  
 355 360 365  
 Ile Gln Gly Phe Ile Glu Glu Phe Leu Gln Ile Phe Ser Ser Leu Leu  
 370 375 380  
 Gln Glu Lys Arg Phe Leu Arg Asp Tyr Asp Ala Leu Phe Pro Val Ala  
 385 390 395 400  
 Glu Asp Ile Ser Leu Leu Gln Gln Ala Ser Ser Val Leu Asp Glu Thr  
 405 410 415  
 Arg Thr Ala Tyr Ile Leu Gln Ala Val Glu Ser Ala Trp Glu Gly Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |  |  |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|--|--|-----|--|--|
|     |     |     |     |     |     |     |     |     |     | 420 |     |     |     |     |     | 425 |  |  |     |  |  | 430 |  |  |
| Asp | Arg | Arg | Lys | Ala | Thr | Asp | Ala | Lys | Asp | Pro | Ser | Val | Ile | Glu | Glu |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 435 |     |     | 440 |     |     | 445 |  |  |     |  |  |     |  |  |
| Pro | Asn | Gly | Glu | Pro | Asn | Gly | Val | Thr | Val | Thr | Ala | Glu | Ala | Val | Ser |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 450 |     |     | 455 |     |     | 460 |  |  |     |  |  |     |  |  |
| Gln | Ala | Ser | Ser | His | Pro | Glu | Asn | Ser | Glu | Glu | Glu | Glu | Cys | Met | Gly |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 465 |     |     | 470 |     |     | 475 |  |  | 480 |  |  |     |  |  |
| Ala | Ala | Ala | Ala | Val | Gly | Pro | Ala | Met | Cys | Gly | Val | Glu | Leu | Asp | Ser |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 485 |     |     | 490 |     |     | 495 |  |  |     |  |  |     |  |  |
| Leu | Ile | Ser | Gln | Val | Lys | Asp | Leu | Leu | Pro | Asp | Leu | Gly | Glu | Gly | Phe |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 500 |     |     | 505 |     |     | 510 |  |  |     |  |  |     |  |  |
| Ile | Leu | Ala | Cys | Leu | Glu | Tyr | Tyr | His | Tyr | Asp | Pro | Glu | Gln | Val | Ile |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 515 |     |     | 520 |     |     | 525 |  |  |     |  |  |     |  |  |
| Asn | Asn | Ile | Leu | Glu | Glu | Arg | Leu | Ala | Pro | Thr | Leu | Ser | Gln | Leu | Asp |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 530 |     |     | 535 |     |     | 540 |  |  |     |  |  |     |  |  |
| Arg | Asn | Leu | Asp | Arg | Glu | Met | Lys | Pro | Asp | Pro | Thr | Pro | Leu | Leu | Thr |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 545 |     |     | 550 |     |     | 555 |  |  | 560 |  |  |     |  |  |
| Ser | Arg | His | Asn | Val | Phe | Gln | Asn | Asp | Glu | Phe | Asp | Val | Phe | Ser | Arg |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 565 |     |     | 570 |     |     | 575 |  |  |     |  |  |     |  |  |
| Asp | Ser | Val | Asp | Leu | Ser | Arg | Val | His | Lys | Gly | Lys | Ser | Thr | Arg | Lys |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 580 |     |     | 585 |     |     | 590 |  |  |     |  |  |     |  |  |
| Glu | Glu | Asn | Thr | Arg | Ser | Leu | Leu | Asn | Asp | Lys | Arg | Ala | Val | Ala | Ala |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 595 |     |     | 600 |     |     | 605 |  |  |     |  |  |     |  |  |
| Gln | Arg | Gln | Arg | Tyr | Glu | Gln | Tyr | Ser | Val | Val | Val | Glu | Glu | Val | Pro |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 610 |     |     | 615 |     |     | 620 |  |  |     |  |  |     |  |  |
| Leu | Gln | Pro | Gly | Glu | Ser | Leu | Pro | Tyr | His | Ser | Val | Tyr | Tyr | Glu | Asp |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 625 |     |     | 630 |     |     | 635 |  |  | 640 |  |  |     |  |  |
| Glu | Tyr | Asp | Asp | Thr | Tyr | Asp | Gly | Asn | Gln | Val | Gly | Ala | Asn | Asp | Ala |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 645 |     |     | 650 |     |     | 655 |  |  |     |  |  |     |  |  |
| Asp | Ser | Asp | Asp | Glu | Leu | Ile | Ser | Arg | Arg | Pro | Phe | Thr | Ile | Pro | Gln |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 660 |     |     | 665 |     |     | 670 |  |  |     |  |  |     |  |  |
| Val | Leu | Arg | Thr | Lys | Val | Pro | Arg | Glu | Gly | Gln | Glu | Glu | Asp | Asp | Asp |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 675 |     |     | 680 |     |     | 685 |  |  |     |  |  |     |  |  |
| Asp | Glu | Glu | Asp | Asp | Ala | Asp | Glu | Glu | Ala | Pro | Lys | Pro | Asp | His | Phe |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 690 |     |     | 695 |     |     | 700 |  |  |     |  |  |     |  |  |
| Val | Gln | Asp | Pro | Ala | Val | Leu | Arg | Glu | Lys | Ala | Glu | Ala | Arg | Arg | Met |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 705 |     |     | 710 |     |     | 715 |  |  | 720 |  |  |     |  |  |
| Ala | Phe | Leu | Ala | Lys | Lys | Gly | Tyr | Arg | His | Asp | Ser | Ser | Thr | Ala | Val |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 725 |     |     | 730 |     |     | 735 |  |  |     |  |  |     |  |  |
| Ala | Gly | Ser | Pro | Arg | Gly | His | Gly | Gln | Ser | Arg | Glu | Thr | Thr | Gln | Glu |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 740 |     |     | 745 |     |     | 750 |  |  |     |  |  |     |  |  |
| Arg | Arg | Lys | Lys | Glu | Ala | Asn | Lys | Ala | Thr | Arg | Ala | Asn | His | Asn | Arg |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 755 |     |     | 760 |     |     | 765 |  |  |     |  |  |     |  |  |
| Arg | Thr | Met | Ala | Asp | Arg | Lys | Arg | Ser | Lys | Gly | Met | Ile | Pro | Ser |     |     |  |  |     |  |  |     |  |  |
|     |     |     |     |     |     |     |     |     |     | 770 |     |     | 775 |     |     | 780 |  |  | 783 |  |  |     |  |  |

<210> 3074  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens

<400> 3074  
 Gly Glu Ala Arg Ser Pro Pro Pro Ala Ala Ala Leu Leu Asp Met Asp  
 1 5 10 15  
 Pro Glu Thr Cys Pro Cys Pro Ser Gly Gly Ser Cys Thr Cys Ala Asp  
 20 25 30  
 Ser Cys Lys Cys Glu Gly Cys Lys Cys Thr Ser Cys Lys Lys Ser Cys  
 35 40 45  
 Cys Ser Cys Cys Pro Ala Glu Cys Glu Lys Cys Ala Lys Asp Cys Val  
 50 55 60  
 Cys Lys Gly Gly Glu Ala Ala Glu Ala Glu Ala Glu Lys Cys Ser Cys

65  
Cys Gln  
82

70

75

80

<210> 3075  
<211> 242  
<212> PRT  
<213> Homo sapiens

<400> 3075  
Ser Gln Phe Ser Leu Ser Gln Val Leu Val Asp Ser Ala Glu Glu Gly  
1 5 10 15  
Ser Leu Ala Ala Ala Ala Glu Leu Ala Ala Gln Lys Arg Glu Gln Arg  
20 25 30  
Leu Arg Lys Phe Arg Glu Leu His Leu Met Arg Asn Glu Ala Arg Lys  
35 40 45  
Leu Asn His Gln Glu Val Val Glu Glu Asp Lys Arg Leu Lys Leu Pro  
50 55 60  
Ala Asn Trp Glu Ala Lys Lys Ala Arg Leu Glu Trp Glu Leu Lys Glu  
65 70 75 80  
Glu Glu Lys Lys Lys Glu Cys Ala Ala Arg Gly Glu Asp Tyr Glu Lys  
85 90 95  
Val Lys Leu Leu Glu Ile Ser Ala Glu Asp Ala Glu Arg Trp Glu Arg  
100 105 110  
Lys Lys Lys Arg Lys Asn Pro Asp Leu Gly Phe Ser Asp Tyr Ala Ala  
115 120 125  
Ala Gln Leu Arg Gln Tyr His Arg Leu Thr Lys Gln Ile Lys Pro Asp  
130 135 140  
Met Glu Thr Tyr Glu Arg Leu Arg Glu Lys His Gly Glu Glu Phe Phe  
145 150 155 160  
Pro Thr Ser Asn Ser Leu Leu His Gly Thr His Val Pro Ser Thr Glu  
165 170 175  
Glu Ile Asp Arg Met Val Ile Asp Leu Glu Lys Gln Ile Glu Lys Arg  
180 185 190  
Asp Lys Tyr Ser Arg Arg Arg Pro Tyr Asn Asp Asp Ala Asp Ile Asp  
195 200 205  
Tyr Ile Asn Glu Arg Asn Ala Lys Phe Asn Lys Lys Ala Glu Arg Phe  
210 215 220  
Tyr Gly Lys Tyr Thr Ala Glu Ile Lys Gln Asn Leu Glu Arg Gly Thr  
225 230 235 240  
Ala Val  
242

<210> 3076  
<211> 242  
<212> PRT  
<213> Homo sapiens

<400> 3076  
Ser Gln Phe Ser Leu Ser Gln Val Leu Val Asp Ser Ala Glu Glu Gly  
1 5 10 15  
Ser Leu Ala Ala Ala Ala Glu Leu Ala Ala Gln Lys Arg Glu Gln Arg  
20 25 30  
Leu Arg Lys Phe Arg Glu Leu His Leu Met Arg Asn Glu Ala Arg Lys  
35 40 45  
Leu Asn His Gln Glu Val Val Glu Glu Asp Lys Arg Leu Lys Leu Pro  
50 55 60  
Ala Asn Trp Glu Ala Lys Lys Ala Arg Leu Glu Trp Glu Leu Lys Glu



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Glu | Lys | Lys | Lys | Glu | Cys | Ala | Ala | Arg | Gly | Glu | Asp | Tyr | Glu | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Lys | Leu | Leu | Glu | Ile | Ser | Ala | Glu | Asp | Ala | Glu | Arg | Trp | Glu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Lys | Lys | Arg | Lys | Asn | Pro | Asp | Leu | Gly | Phe | Ser | Asp | Tyr | Ala | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gln | Leu | Arg | Gln | Tyr | His | Arg | Leu | Thr | Lys | Gln | Ile | Lys | Pro | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Glu | Thr | Tyr | Glu | Arg | Leu | Arg | Glu | Lys | His | Gly | Glu | Glu | Phe | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Thr | Ser | Asn | Ser | Leu | Leu | His | Gly | Thr | His | Val | Pro | Ser | Thr | Glu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | Ile | Asp | Arg | Met | Val | Ile | Asp | Leu | Glu | Lys | Gln | Ile | Glu | Lys | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Lys | Tyr | Ser | Arg | Arg | Arg | Pro | Tyr | Asn | Asp | Asp | Ala | Asp | Ile | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Tyr | Ile | Asn | Glu | Arg | Asn | Ala | Lys | Phe | Asn | Lys | Lys | Ala | Glu | Arg | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Tyr | Gly | Lys | Tyr | Thr | Ala | Glu | Ile | Lys | Gln | Asn | Leu | Glu | Arg | Gly | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ala | Val |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 242 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3077

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3077

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Leu | Arg | Pro | Arg | Arg | Ala | Cys | Ala | Gln | Leu | Leu | Trp | His | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ala | Gly | Met | Ala | Ser | Trp | Ala | Lys | Gly | Arg | Ser | Tyr | Leu | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Leu | Leu | Gln | Gly | Gln | Val | Ala | Ile | Val | Thr | Gly | Gly | Ala | Thr | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Gly | Lys | Ala | Ile | Val | Lys | Glu | Leu | Leu | Glu | Leu | Gly | Ser | Asn | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Ile | Ala | Ser | Arg | Lys | Leu | Glu | Arg | Leu | Lys | Ser | Ala | Ala | Asp | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Gln | Ala | Asn | Leu | Pro | Pro | Thr | Lys | Gln | Ala | Arg | Val | Ile | Pro | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln | Cys | Asn | Ile | Arg | Asn | Glu | Glu | Glu | Val | Asn | Asn | Leu | Val | Lys | Ser |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Thr | Leu | Asp | Thr | Phe | Gly | Lys | Ile | Asn | Phe | Leu | Val | Asn | Asn | Gly | Gly |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gly | Gln | Phe | Leu | Ser | Pro | Ala | Glu | His | Ile | Ser | Ser | Lys | Gly | Trp | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Val | Leu | Glu | Thr | Asn | Leu | Thr | Gly | Thr | Phe | Tyr | Met | Cys | Lys | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Tyr | Ser | Ser | Trp | Met | Lys | Lys | His | Gly | Gly | Ser | Ile | Val | Asn | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ile | Val | Pro | Thr | Lys | Ala | Gly | Phe | Pro | Leu | Ala | Val | His | Ser | Gly | Ala |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Ala | Arg | Ala | Gly | Val | Tyr | Asn | Leu | Thr | Lys | Ser | Leu | Ala | Phe | Glu | Trp |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Ala | Cys | Ser | Gly | Ile | Arg | Ile | Asn | Cys | Val | Ala | Pro | Gly | Val | Ile | Tyr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Gln | Thr | Ala | Val | Glu | Asn | Tyr | Gly | Ser | Trp | Gly | Gln | Ser | Phe | Phe |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Gly | Ser | Phe | Gln | Lys | Ile | Pro | Ala | Lys | Arg | Ile | Gly | Val | Pro | Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Glu | Val | Ser | Ser | Val | Val | Cys | Phe | Leu | Leu | Ser | Pro | Ala | Ala | Ser | Phe |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ile | Thr | Gly | Gln | Ser | Val | Asp | Val | Asp | Gly | Gly | Arg | Ser | Leu | Tyr | Thr |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| His | Ser | Tyr | Glu | Val | Pro | Asp | His | Asp | Asn | Trp | Pro | Lys | Gly | Ala | Gly |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Asp | Leu | Ser | Val | Val | Lys | Lys | Met | Lys | Glu | Thr | Phe | Lys | Glu | Lys | Ala |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Lys | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 322 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3078

&lt;211&gt; 1168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3078

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Val | Arg | Glu | Ser | Gly | Lys | Ala | Pro | Val | Thr | Phe | Asp | Asp | Ile | Thr |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Val | Tyr | Leu | Leu | Gln | Glu | Glu | Trp | Val | Leu | Leu | Ser | Gln | Gln | Gln | Lys |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Glu | Leu | Cys | Gly | Ser | Asn | Lys | Leu | Val | Ala | Pro | Leu | Gly | Pro | Thr | Val |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Ala | Asn | Pro | Glu | Leu | Phe | Arg | Lys | Phe | Gly | Arg | Gly | Pro | Glu | Pro | Trp |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Leu | Gly | Ser | Val | Gln | Gly | Gln | Arg | Ser | Leu | Leu | Glu | His | His | Pro | Gly |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Lys | Lys | Gln | Met | Gly | Tyr | Met | Gly | Glu | Met | Glu | Val | Gln | Gly | Pro | Thr |  |  |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Arg | Glu | Ser | Gly | Gln | Ser | Leu | Pro | Pro | Gln | Lys | Lys | Ala | Tyr | Leu | Ser |  |  |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| His | Leu | Ser | Thr | Gly | Ser | Gly | His | Ile | Glu | Gly | Asp | Trp | Ala | Gly | Arg |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Asn | Arg | Lys | Leu | Leu | Lys | Pro | Arg | Ser | Ile | Gln | Lys | Ser | Trp | Phe | Val |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gln | Phe | Pro | Trp | Leu | Ile | Met | Asn | Glu | Glu | Gln | Thr | Ala | Leu | Phe | Cys |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |  |  |
| Ser | Ala | Cys | Arg | Glu | Tyr | Pro | Ser | Ile | Arg | Asp | Lys | Arg | Ser | Arg | Leu |  |  |
|     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ile | Glu | Gly | Tyr | Thr | Gly | Pro | Phe | Lys | Val | Glu | Thr | Leu | Lys | Tyr | His |  |  |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ala | Lys | Ser | Lys | Ala | His | Met | Phe | Cys | Val | Asn | Ala | Leu | Ala | Ala | Arg |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |  |  |
| Asp | Pro | Ile | Trp | Ala | Ala | Arg | Phe | Arg | Ser | Ile | Arg | Asp | Pro | Pro | Gly |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Asp | Val | Leu | Ala | Ser | Pro | Glu | Pro | Leu | Phe | Thr | Ala | Asp | Cys | Pro | Ile |  |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Phe | Tyr | Pro | Pro | Gly | Pro | Leu | Gly | Gly | Phe | Asp | Ser | Met | Ala | Glu | Leu |  |  |
|     |     | 245 |     |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Leu | Pro | Ser | Ser | Arg | Ala | Glu | Leu | Glu | Asp | Pro | Gly | Gly | Asp | Gly | Ala |  |  |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Ile | Pro | Ala | Met | Tyr | Leu | Asp | Cys | Ile | Ser | Asp | Leu | Arg | Gln | Lys | Glu |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |  |  |
| Ile | Thr | Asp | Gly | Ile | His | Ser | Ser | Ser | Asp | Ile | Asn | Ile | Leu | Tyr | Asn |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Asp | Ala | Val | Glu | Ser | Cys | Ile | Gln | Asp | Pro | Ser | Ala | Glu | Gly | Leu | Ser |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |  |  |
| Glu | Glu | Val | Pro | Val | Val | Phe | Glu | Glu | Leu | Pro | Val | Val | Phe | Glu | Asp |  |  |
|     |     | 325 |     |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Val | Ala | Val | Tyr | Phe | Thr | Arg | Glu | Glu | Trp | Gly | Met | Leu | Asp | Lys | Arg |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Gln | Lys | Glu | Leu | Tyr | Arg | Asp | Val | Met | Arg | Met | Asn | Tyr | Glu | Leu | Leu |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Ala | Ser | Leu | Gly | Pro | Ala | Ala | Ala | Lys | Pro | Asp | Leu | Ile | Ser | Lys | Leu |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Glu | Arg | Arg | Ala | Ala | Pro | Trp | Ile | Lys | Asp | Pro | Asn | Gly | Pro | Lys | Trp |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Gly | Lys | Gly | Arg | Pro | Pro | Gly | Asn | Lys | Lys | Met | Val | Ala | Val | Arg | Glu |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |  |
| Ala | Asp | Thr | Gln | Ala | Ser | Ala | Ala | Asp | Ser | Ala | Leu | Leu | Pro | Gly | Ser |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Pro | Val | Glu | Ala | Arg | Ala | Ser | Cys | Cys | Ser | Ser | Ser | Ile | Cys | Glu | Glu |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Gly | Asp | Gly | Pro | Arg | Arg | Ile | Lys | Arg | Thr | Tyr | Arg | Pro | Arg | Ser | Ile |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Gln | Arg | Ser | Trp | Phe | Gly | Gln | Phe | Pro | Trp | Leu | Val | Ile | Asp | Pro | Lys |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Glu | Thr | Lys | Leu | Phe | Cys | Ser | Ala | Cys | Ile | Glu | Arg | Pro | Asn | Leu | His |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |  |
| Asp | Lys | Ser | Ser | Arg | Leu | Val | Arg | Gly | Tyr | Thr | Gly | Pro | Phe | Lys | Val |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Glu | Thr | Leu | Lys | Tyr | His | Glu | Val | Ser | Lys | Ala | His | Arg | Leu | Cys | Val |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Asn | Thr | Val | Glu | Ile | Lys | Glu | Asp | Thr | Pro | His | Thr | Ala | Leu | Val | Pro |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Glu | Ile | Ser | Ser | Asp | Leu | Met | Ala | Asn | Met | Glu | His | Phe | Phe | Asn | Ala |  |
| 545 |     |     |     | 550 |     |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Ala | Tyr | Ser | Ile | Ala | Tyr | His | Ser | Arg | Pro | Leu | Asn | Asp | Phe | Glu | Lys |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |
| Ile | Leu | Gln | Leu | Leu | Gln | Ser | Thr | Gly | Thr | Val | Ile | Leu | Gly | Lys | Tyr |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Arg | Asn | Arg | Thr | Ala | Cys | Thr | Gln | Phe | Ile | Lys | Tyr | Ile | Ser | Glu | Thr |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |
| Leu | Lys | Arg | Glu | Ile | Leu | Glu | Asp | Val | Arg | Asn | Ser | Pro | Cys | Val | Ser |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Val | Leu | Leu | Asp | Ser | Ser | Thr | Asp | Ala | Ser | Glu | Gln | Ala | Cys | Val | Gly |  |
| 625 |     |     |     | 630 |     |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Ile | Tyr | Ile | Arg | Tyr | Phe | Lys | Gln | Met | Glu | Val | Lys | Glu | Ser | Tyr | Ile |  |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     |     | 655 |     |  |
| Thr | Leu | Ala | Pro | Leu | Tyr | Ser | Glu | Thr | Ala | Asp | Gly | Tyr | Phe | Glu | Thr |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Ile | Val | Ser | Ala | Leu | Asp | Glu | Leu | Asp | Ile | Pro | Phe | Arg | Lys | Pro | Gly |  |
|     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |     |  |
| Trp | Val | Val | Gly | Leu | Gly | Thr | Asp | Gly | Ser | Ala | Met | Leu | Ser | Cys | Arg |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |
| Gly | Gly | Leu | Val | Glu | Lys | Phe | Gln | Glu | Val | Ile | Pro | Gln | Leu | Leu | Pro |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Val | His | Cys | Val | Ala | His | Arg | Leu | His | Leu | Ala | Val | Val | Asp | Ala | Cys |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     |     | 735 |     |  |
| Gly | Ser | Ile | Asp | Leu | Val | Lys | Lys | Cys | Asp | Arg | His | Ile | Arg | Thr | Val |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Phe | Lys | Phe | Tyr | Gln | Ser | Ser | Asn | Lys | Arg | Leu | Asn | Glu | Leu | Gln | Glu |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |
| Gly | Ala | Ala | Pro | Leu | Glu | Gln | Glu | Ile | Ile | Arg | Leu | Lys | Asp | Leu | Asn |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     |     | 780 |     |     |     |  |
| Ala | Val | Arg | Trp | Val | Ala | Ser | Arg | Arg | Arg | Thr | Leu | His | Ala | Leu | Leu |  |
| 785 |     |     |     | 790 |     |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Val | Ser | Trp | Pro | Ala | Leu | Ala | Arg | His | Leu | Gln | Arg | Val | Ala | Glu | Ala |  |
|     |     |     | 805 |     |     |     |     | 810 |     |     |     |     |     | 815 |     |  |
| Gly | Gly | Gln | Ile | Gly | His | Arg | Ala | Lys | Gly | Met | Leu | Lys | Leu | Met | Arg |  |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Gly | Phe | His | Phe | Val | Lys | Phe | Cys | His | Phe | Leu | Leu | Asp | Phe | Leu | Ser |  |
|     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |
| Ile | Tyr | Arg | Pro | Leu | Ser | Glu | Val | Cys | Gln | Lys | Glu | Ile | Val | Leu | Ile |  |

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| 850                     | 855                     | 860                 |
| Thr Glu Val Asn Ala     | Thr Leu Gly Arg Ala Tyr | Val Ala Leu Glu Ser |
| 865                     | 870                     | 875                 |
| Leu Arg His Gln Ala     | Gly Pro Lys Glu Glu Glu | Phe Asn Ala Ser Phe |
| 885                     | 890                     | 895                 |
| Lys Asp Gly Arg Leu His | Gly Ile Cys Leu Asp Lys | Leu Glu Val Ala     |
| 900                     | 905                     | 910                 |
| Glu Gln Arg Phe Gln Ala | Asp Arg Glu Arg Thr Val | Leu Thr Gly Ile     |
| 915                     | 920                     | 925                 |
| Glu Tyr Leu Gln Gln Arg | Phe Asp Ala Asp Arg Pro | Pro Gln Leu Lys     |
| 930                     | 935                     | 940                 |
| Asn Met Glu Val Phe Asp | Thr Met Ala Trp Pro Ser | Gly Ile Glu Leu     |
| 945                     | 950                     | 955                 |
| Ala Ser Phe Gly Asn Asp | Asp Ile Leu Asn Leu Ala | Arg Tyr Phe Glu     |
| 965                     | 970                     | 975                 |
| Cys Ser Leu Pro Thr Gly | Tyr Ser Glu Glu Ala Leu | Leu Glu Glu Trp     |
| 980                     | 985                     | 990                 |
| Leu Gly Leu Lys Thr Ile | Ala Gln His Leu Pro Phe | Ser Met Leu Cys     |
| 995                     | 1000                    | 1005                |
| Lys Asn Ala Leu Ala Gln | His Cys Arg Phe Pro Leu | Leu Ser Lys Leu     |
| 1010                    | 1015                    | 1020                |
| Met Ala Val Val Val Cys | Val Pro Ile Ser Thr Ser | Cys Cys Glu Arg     |
| 1025                    | 1030                    | 1035                |
| Gly Phe Lys Ala Met Asn | Arg Ile Arg Thr Asp Glu | Arg Thr Lys Leu     |
| 1045                    | 1050                    | 1055                |
| Ser Asn Glu Val Leu Asn | Met Leu Met Met Thr Ala | Val Asn Gly Val     |
| 1060                    | 1065                    | 1070                |
| Ala Val Thr Glu Tyr Asp | Pro Gln Pro Ala Ile Gln | His Trp Tyr Leu     |
| 1075                    | 1080                    | 1085                |
| Thr Ser Ser Gly Arg Arg | Phe Ser His Val Tyr Thr | Cys Ala Gln Val     |
| 1090                    | 1095                    | 1100                |
| Pro Ala Arg Ser Pro Ala | Ser Ala Arg Leu Arg Lys | Glu Glu Met Gly     |
| 1105                    | 1110                    | 1115                |
| Ala Leu Tyr Val Glu Glu | Pro Arg Thr Gln Lys Pro | Pro Ile Leu Pro     |
| 1125                    | 1130                    | 1135                |
| Ser Arg Glu Ala Ala Glu | Val Leu Lys Asp Cys Ile | Met Glu Pro Pro     |
| 1140                    | 1145                    | 1150                |
| Glu Arg Leu Leu Tyr Pro | His Thr Ser Gln Glu Ala | Pro Gly Met Ser     |
| 1155                    | 1160                    | 1165                |
|                         |                         | 1168                |

&lt;210&gt; 3079

&lt;211&gt; 390

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3079

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| Phe Ser Pro Leu Glu Pro | Arg Leu Cys Ser Leu | Gly Gly Trp Gly Ala |
| 1                       | 5                   | 10                  |
| Leu Gln Ala Gly Glu Pro | Cys Gln Pro Ser Arg | Ala Gly Cys Gly Arg |
| 20                      | 25                  | 30                  |
| Glu Gly Ala Thr Met Gly | Cys Thr Leu Ser Ala | Glu Glu Arg Ala Ala |
| 35                      | 40                  | 45                  |
| Leu Glu Arg Ser Lys Ala | Ile Glu Lys Asn Leu | Lys Glu Asp Gly Ile |
| 50                      | 55                  | 60                  |
| Ser Ala Ala Lys Asp Val | Lys Leu Leu Leu Leu | Gly Ala Gly Glu Ser |
| 65                      | 70                  | 75                  |
| Gly Lys Ser Thr Ile Val | Lys Gln Met Lys Ile | Ile His Glu Asp Gly |
| 85                      | 90                  | 95                  |
| Phe Ser Gly Glu Asp Val | Lys Gln Tyr Lys Pro | Val Val Tyr Ser Asn |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Thr | Ile | Gln | Ser | Leu | Ala | Ala | Ile | Val | Arg | Ala | Met | Asp | Thr | Leu | Gly |  |  |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |  |  |
| Ile | Glu | Tyr | Gly | Asp | Lys | Glu | Arg | Lys | Ala | Asp | Ala | Lys | Met | Val | Cys |  |  |
|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |  |  |
| Asp | Val | Val | Ser | Arg | Met | Glu | Asp | Thr | Glu | Pro | Phe | Ser | Ala | Glu | Leu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Leu | Ser | Ala | Met | Met | Arg | Leu | Trp | Gly | Asp | Ser | Gly | Ile | Gln | Glu | Cys |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Phe | Asn | Arg | Ser | Arg | Glu | Tyr | Gln | Leu | Asn | Asp | Ser | Ala | Lys | Tyr | Tyr |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Leu | Asp | Ser | Leu | Asp | Arg | Ile | Gly | Ala | Ala | Asp | Tyr | Gln | Pro | Thr | Glu |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Gln | Asp | Ile | Leu | Arg | Thr | Arg | Val | Lys | Thr | Thr | Gly | Ile | Val | Glu | Thr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| His | Phe | Thr | Phe | Lys | Asn | Leu | His | Phe | Arg | Leu | Phe | Asp | Val | Gly | Gly |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gln | Arg | Ser | Glu | Arg | Lys | Lys | Trp | Ile | His | Cys | Phe | Glu | Asp | Val | Thr |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Ala | Ile | Ile | Phe | Cys | Val | Ala | Leu | Ser | Gly | Tyr | Asp | Gln | Val | Leu | His |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |  |  |
| Glu | Asp | Glu | Thr | Thr | Asn | Arg | Met | His | Glu | Ser | Leu | Lys | Leu | Phe | Asp |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |  |  |
| Ser | Ile | Cys | Asn | Asn | Lys | Trp | Phe | Thr | Asp | Thr | Ser | Ile | Ile | Leu | Phe |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Leu | Asn | Lys | Lys | Asp | Ile | Phe | Glu | Glu | Lys | Ile | Lys | Lys | Ser | Pro | Leu |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Thr | Ile | Cys | Phe | Pro | Glu | Tyr | Thr | Gly | Pro | Ser | Ala | Phe | Thr | Glu | Ala |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Val | Ala | Tyr | Ile | Gln | Ala | Gln | Tyr | Glu | Ser | Lys | Asn | Lys | Ser | Ala | His |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Lys | Glu | Ile | Tyr | Ser | His | Val | Thr | Cys | Ala | Thr | Asp | Thr | Asn | Asn | Ile |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Gln | Phe | Val | Phe | Asp | Ala | Val | Thr | Asp | Val | Ile | Ile | Ala | Lys | Asn | Leu |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Arg | Gly | Cys | Gly | Leu | Tyr |     |     |     |     |     |     |     |     |     |     |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3080

&lt;211&gt; 318

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3080

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Glu | Ala | Arg | Thr | Ala | Arg | Glu | Leu | Thr | Asp | Gly | Val | Thr | Asp | Gly | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Thr | Met | Ala | Asp | Gln | Pro | Lys | Pro | Ile | Ser | Pro | Leu | Lys | Asn | Leu | Leu |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ala | Gly | Gly | Phe | Gly | Gly | Val | Cys | Leu | Val | Phe | Val | Gly | His | Pro | Leu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Asp | Thr | Val | Lys | Val | Arg | Leu | Gln | Thr | Gln | Pro | Pro | Ser | Leu | Pro | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Gln | Pro | Pro | Met | Tyr | Ser | Gly | Thr | Phe | Asp | Cys | Phe | Arg | Lys | Thr | Leu |  |  |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Phe | Arg | Glu | Gly | Ile | Thr | Gly | Leu | Tyr | Arg | Gly | Met | Ala | Ala | Pro | Ile |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Ile | Gly | Val | Thr | Pro | Met | Phe | Ala | Val | Cys | Phe | Phe | Gly | Phe | Gly | Leu |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Gly | Lys | Lys | Leu | Gln | Gln | Lys | His | Pro | Glu | Asp | Val | Leu | Ser | Tyr | Pro |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Gln | Leu | Phe | Ala | Ala | Gly | Met | Leu | Ser | Gly | Val | Phe | Thr | Thr | Gly | Ile |  |  |



```
<210> 3081
<211> 664
<212> PRT
<213> Homo sapiens
```

4752

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Glu | Glu | His | Arg | His | Ser | Asp | Asp | Glu | Glu | Glu | Gln | Asp | His | Lys | Ser |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Glu | Ser | Ala | Arg | Gly | Ser | Asp | Ser | Glu | Asp | Glu | Val | Leu | Arg | Met | Lys |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Arg | Lys | Asn | Ala | Ile | Ala | Ser | Asp | Ser | Glu | Ala | Asp | Ser | Asp | Thr | Glu |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Val | Pro | Lys | Asp | Asn | Ser | Gly | Thr | Met | Asp | Leu | Phe | Gly | Gly | Ala | Asp |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Asp | Ile | Ser | Ser | Gly | Ser | Asp | Gly | Glu | Asp | Lys | Pro | Pro | Thr | Pro | Gly |  |  |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Gln | Pro | Val | Asp | Glu | Asn | Gly | Leu | Pro | Gln | Asp | Gln | Gln | Glu | Glu | Glu |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Pro | Ile | Pro | Glu | Thr | Arg | Ile | Glu | Val | Glu | Ile | Pro | Lys | Val | Asn | Thr |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Asp | Leu | Gly | Asn | Asp | Leu | Tyr | Phe | Val | Lys | Leu | Pro | Asn | Phe | Leu | Ser |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Val | Glu | Pro | Arg | Pro | Phe | Asp | Pro | Gln | Tyr | Tyr | Glu | Asp | Glu | Phe | Glu |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Asp | Glu | Glu | Met | Leu | Asp | Glu | Glu | Gly | Arg | Thr | Arg | Leu | Lys | Leu | Lys |  |  |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     |     | 415 |     |  |  |
| Val | Glu | Asn | Thr | Ile | Arg | Trp | Arg | Ile | Arg | Arg | Asp | Glu | Glu | Gly | Asn |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Glu | Ile | Lys | Glu | Ser | Asn | Ala | Arg | Ile | Val | Lys | Trp | Ser | Asp | Gly | Ser |  |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Met | Ser | Leu | His | Leu | Gly | Asn | Glu | Val | Phe | Asp | Val | Tyr | Lys | Ala | Pro |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Leu | Gln | Gly | Asp | His | Asn | His | Leu | Phe | Ile | Arg | Gln | Gly | Thr | Gly | Leu |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Gln | Gly | Gln | Ala | Val | Phe | Lys | Thr | Lys | Leu | Thr | Phe | Arg | Pro | His | Ser |  |  |
|     |     |     |     | 485 |     |     |     | 490 |     |     |     |     |     | 495 |     |  |  |
| Thr | Asp | Ser | Ala | Thr | His | Arg | Lys | Met | Thr | Leu | Ser | Leu | Ala | Asp | Arg |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Cys | Ser | Lys | Thr | Gln | Lys | Ile | Arg | Ile | Leu | Pro | Met | Ala | Gly | Arg | Asp |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Pro | Glu | Cys | Gln | Arg | Thr | Glu | Met | Ile | Lys | Lys | Glu | Glu | Glu | Arg | Leu |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Arg | Ala | Ser | Ile | Arg | Arg | Glu | Ser | Gln | Gln | Arg | Arg | Met | Arg | Glu | Lys |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Gln | His | Gln | Arg | Gly | Leu | Ser | Ala | Ser | Tyr | Leu | Glu | Pro | Asp | Arg | Tyr |  |  |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Asp | Glu | Glu | Glu | Glu | Gly | Glu | Glu | Ser | Ile | Ser | Leu | Ala | Ala | Ile | Lys |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Asn | Arg | Tyr | Lys | Gly | Gly | Ile | Arg | Glu | Glu | Arg | Ala | Arg | Ile | Tyr | Ser |  |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Ser | Asp | Ser | Asp | Glu | Gly | Ser | Glu | Glu | Asp | Lys | Ala | Gln | Arg | Leu | Leu |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Lys | Ala | Lys | Lys | Leu | Thr | Ser | Asp | Glu | Val | Arg | Pro | Asn | Leu | Phe | Asn |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Ser | Arg | Gly | Leu | Ser | Cys | Thr | Gln | Glu | Pro | Thr | Ala | Leu | Asn | Glu | Glu |  |  |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     |     |     | 655 |     |  |  |
| Leu | Thr | Asp | Gln | Ala | Gly | Thr | Asn |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 660 |     |     |     | 664 |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3082

&lt;211&gt; 305

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3082

Val Glu Phe Cys Leu Pro Ala Ser Ala Asp Ser Ser Ser Leu Val Ala

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Ala Ser Leu Ala Gly Val Arg Lys Met Ala Thr Asn Phe Leu Ala His |     |     |     |
|   | 20  | 25  | 30  |
| Glu Lys Ile Trp Phe Asp Lys Phe Lys Tyr Asp Asp Ala Glu Arg Arg |     |     |     |
|   | 35  | 40  | 45  |
| Phe Tyr Glu Gln Met Asn Gly Pro Val Ala Gly Ala Ser Arg Gln Glu |     |     |     |
|   | 50  | 55  | 60  |
| Asn Gly Ala Ser Val Ile Leu Arg Asp Ile Ala Arg Ala Arg Glu Asn |     |     |     |
| 65  | 70  | 75  | 80  |
| Ile Gln Lys Ser Leu Ala Gly Ser Ser Gly Pro Gly Ala Ser Ser Gly |     |     |     |
|   | 85  | 90  | 95  |
| Thr Ser Gly Asp His Gly Glu Leu Val Val Arg Ile Ala Ser Leu Glu |     |     |     |
|   | 100 | 105 | 110 |
| Val Glu Asn Gln Ser Leu Arg Gly Val Val Gln Glu Leu Gln Gln Ala |     |     |     |
|   | 115 | 120 | 125 |
| Ile Ser Lys Leu Glu Ala Arg Leu Asn Val Leu Glu Lys Ser Ser Pro |     |     |     |
| 130   | 135 | 140 |     |
| Gly His Arg Ala Thr Ala Pro Gln Thr Gln His Val Ser Pro Met Arg |     |     |     |
| 145   | 150 | 155 | 160 |
| Gln Val Glu Pro Pro Ala Lys Lys Pro Ala Thr Pro Ala Glu Asp Asp |     |     |     |
|   | 165 | 170 | 175 |
| Glu Asp Asp Asp Ile Asp Leu Phe Gly Ser Asp Asn Glu Glu Glu Asp |     |     |     |
|   | 180 | 185 | 190 |
| Lys Glu Ala Ala Gln Leu Arg Glu Glu Arg Leu Arg Gln Tyr Ala Glu |     |     |     |
|   | 195 | 200 | 205 |
| Lys Lys Ala Lys Lys Pro Ala Leu Val Ala Lys Ser Ser Ile Leu Leu |     |     |     |
|   | 210 | 215 | 220 |
| Asp Val Lys Pro Trp Asp Asp Glu Thr Asp Met Ala Gln Leu Glu Ala |     |     |     |
| 225   | 230 | 235 | 240 |
| Cys Val Arg Ser Ile Gln Leu Asp Gly Leu Val Trp Gly Ala Ser Lys |     |     |     |
|   | 245 | 250 | 255 |
| Leu Val Pro Val Gly Tyr Gly Ile Arg Lys Leu Gln Ile Gln Cys Val |     |     |     |
|   | 260 | 265 | 270 |
| Val Glu Asp Asp Lys Val Gly Thr Asp Leu Leu Glu Glu Glu Ile Thr |     |     |     |
|   | 275 | 280 | 285 |
| Lys Phe Glu Glu His Val Gln Ser Val Asp Ile Ala Ala Phe Asn Lys |     |     |     |
| 290   | 295 | 300 |     |
| Ile   |     |     |     |
| 305   |     |     |     |

<210> 3083  
 <211> 305  
 <212> PRT  
 <213> Homo sapiens

<400> 3083  
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 Ala Ser Leu Ala Gly Val Arg Lys Met Ala Thr Asn Phe Leu Ala His  
 20 25 30  
 Glu Lys Ile Trp Phe Asp Lys Phe Lys Tyr Asp Asp Ala Glu Arg Arg  
 35 40 45  
 Phe Tyr Glu Gln Met Asn Gly Pro Val Ala Gly Ala Ser Arg Gln Glu  
 50 55 60  
 Asn Gly Ala Ser Val Ile Leu Arg Asp Ile Ala Arg Ala Arg Glu Asn  
 65 70 75 80  
 Ile Gln Lys Ser Leu Ala Gly Ser Ser Gly Pro Gly Ala Ser Ser Gly  
 85 90 95  
 Thr Ser Gly Asp His Gly Glu Leu Val Val Arg Ile Ala Ser Leu Glu  
 100 105 110  
 Val Glu Asn Gln Ser Leu Arg Gly Val Val Gln Glu Leu Gln Gln Ala

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<210> 3084
<211> 1307
<212> PRT
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4755

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Trp | Arg | Pro | His | Ser | Pro | Asp | Gly | Pro | Arg | Ser | Ala | Gly | Trp | Arg |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |
| His | Met | Glu | Arg | Arg | Arg | Arg | Phe | Glu | Phe | Asp | Phe | Arg | Asp | Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |
| Asp | Glu | Arg | Gly | Tyr | Arg | Arg | Val | Arg | Ser | Gly | Ser | Gly | Ser | Ile |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     | Asp |
| Asp | Asp | Arg | Asp | Ser | Leu | Pro | Glu | Trp | Cys | Leu | Glu | Asp | Ala | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     | Glu |
| Glu | Met | Gly | Thr | Phe | Asp | Ser | Ser | Gly | Ala | Phe | Leu | Ser | Leu | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | Lys |
| Val | Gln | Lys | Glu | Pro | Ile | Pro | Glu | Glu | Gln | Glu | Met | Asp | Phe | Arg |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | Pro |
| Val | Asp | Glu | Gly | Glu | Glu | Cys | Ser | Asp | Ser | Glu | Gly | Ser | His | Asn |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 | Glu |
| Glu | Ala | Lys | Glu | Pro | Asp | Lys | Thr | Asn | Lys | Lys | Glu | Gly | Glu | Lys |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     | Thr |
| Asp | Arg | Val | Gly | Val | Glu | Ala | Ser | Glu | Glu | Thr | Pro | Gln | Thr | Ser |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     | Ser |
| Ser | Ser | Ala | Arg | Pro | Gly | Thr | Pro | Ser | Asp | His | Gln | Ser | Gln | Glu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | Ala |
| Ser | Gln | Phe | Glu | Arg | Lys | Asp | Glu | Pro | Lys | Thr | Glu | Gln | Thr | Glu |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | Lys |
| Ala | Glu | Glu | Glu | Thr | Arg | Met | Glu | Asn | Ser | Leu | Pro | Ala | Lys | Val |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 | Pro |
| Ser | Arg | Gly | Asp | Glu | Met | Val | Ala | Asp | Val | Gln | Gln | Pro | Leu | Ser |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     | Gln |
| Ile | Pro | Ser | Asp | Thr | Ala | Ser | Pro | Leu | Leu | Ile | Leu | Pro | Pro | Pro |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     | Val |
| Pro | Asn | Pro | Ser | Pro | Thr | Leu | Arg | Pro | Val | Glu | Thr | Pro | Val | Val |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | Gly |
| Ala | Pro | Gly | Met | Gly | Ser | Val | Ser | Thr | Glu | Pro | Asp | Asp | Glu | Glu |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | Gly |
| Leu | Lys | His | Leu | Glu | Gln | Gln | Ala | Glu | Lys | Met | Val | Ala | Tyr | Leu |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 | Gln |
| Asp | Ser | Ala | Leu | Asp | Asp | Glu | Arg | Leu | Ala | Ser | Lys | Leu | Gln | Glu |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     | His |
| Arg | Ala | Lys | Gly | Val | Ser | Ile | Pro | Leu | Met | His | Glu | Ala | Met | Gln |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     | Lys |
| Trp | Tyr | Tyr | Lys | Asp | Pro | Gln | Gly | Glu | Ile | Gln | Gly | Pro | Phe | Asn |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | Asn |
| Gln | Glu | Met | Ala | Glu | Trp | Phe | Gln | Ala | Gly | Tyr | Phe | Thr | Met | Ser |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | Leu |
| Leu | Val | Lys | Arg | Ala | Cys | Asp | Glu | Ser | Phe | Gln | Pro | Leu | Gly | Asp |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 | Ile |
| Met | Lys | Met | Trp | Gly | Arg | Val | Pro | Phe | Ser | Pro | Gly | Pro | Ala | Pro |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     | Pro |
| Pro | His | Met | Gly | Glu | Leu | Asp | Gln | Glu | Arg | Leu | Thr | Arg | Gln | Gln |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     | Glu |
| Leu | Thr | Ala | Leu | Tyr | Gln | Met | Gln | His | Leu | Gln | Tyr | Gln | Gln | Phe |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     | Leu |
| Ile | Gln | Gln | Gln | Tyr | Ala | Gln | Val | Leu | Ala | Gln | Gln | Gln | Lys | Ala |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | Ala |
| Leu | Ser | Ser | Gln | Gln | Gln | Gln | Gln | Leu | Ala | Leu | Leu | Leu | Gln | Gln |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 | Phe |
| Gln | Thr | Leu | Lys | Met | Arg | Ile | Ser | Asp | Gln | Asn | Ile | Ile | Pro | Ser |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     | Val |
| Thr | Arg | Ser | Val | Ser | Val | Pro | Asp | Thr | Gly | Ser | Ile | Trp | Glu | Leu |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     | Gln |
| Pro | Thr | Ala | Ser | Gln | Pro | Thr | Val | Trp | Glu | Gly | Gly | Ser | Val | Trp |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     | Asp |
| Leu | Pro | Leu | Asp | Thr | Thr | Thr | Pro | Gly | Pro | Ala | Leu | Glu | Gln | Leu |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | Gln |
| Gln | Leu | Glu | Lys | Ala | Lys | Ala | Ala | Lys | Leu | Glu | Gln | Glu | Arg | Arg |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | Glu |



| 740  |     |     |     |     | 745  |     |     |     |     | 750  |     |     |     |     |      |  |
|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|--|
| Ala  | Glu | Met | Arg | Ala | Lys  | Arg | Glu | Glu | Glu | Glu  | Arg | Lys | Arg | Gln | Glu  |  |
| 755  |     |     |     |     | 760  |     |     |     |     | 765  |     |     |     |     |      |  |
| Glu  | Leu | Arg | Arg | Arg | Gln  | Lys | Gly | Ile | Leu | Arg  | Arg | Gln | Gln | Glu | Glu  |  |
| 770  |     |     |     |     | 775  |     |     |     |     | 780  |     |     |     |     |      |  |
| Glu  | Arg | Lys | Arg | Arg | Glu  | Glu | Glu | Glu | Leu | Ala  | Arg | Arg | Lys | Gln | Glu  |  |
| 785  |     |     |     |     | 790  |     |     |     |     | 795  |     |     |     |     | 800  |  |
| Glu  | Ala | Leu | Arg | Arg | Gln  | Arg | Glu | Gln | Glu | Ile  | Ala | Leu | Arg | Arg | Gln  |  |
| 805  |     |     |     |     | 810  |     |     |     |     | 815  |     |     |     |     |      |  |
| Arg  | Glu | Glu | Glu | Glu | Arg  | Gln | Gln | Gln | Glu | Glu  | Ala | Leu | Arg | Arg | Leu  |  |
| 820  |     |     |     |     | 825  |     |     |     |     | 830  |     |     |     |     |      |  |
| Glu  | Glu | Arg | Arg | Arg | Glu  | Glu | Glu | Glu | Arg | Arg  | Lys | Gln | Glu | Glu | Leu  |  |
| 835  |     |     |     |     | 840  |     |     |     |     | 845  |     |     |     |     |      |  |
| Leu  | Arg | Lys | Gln | Glu | Glu  | Glu | Ala | Ala | Lys | Trp  | Ala | Arg | Glu | Glu | Glu  |  |
| 850  |     |     |     |     | 855  |     |     |     |     | 860  |     |     |     |     |      |  |
| Glu  | Ala | Gln | Arg | Arg | Leu  | Glu | Glu | Asn | Arg | Leu  | Arg | Met | Glu | Glu | Glu  |  |
| 865  |     |     |     |     | 870  |     |     |     |     | 875  |     |     |     |     | 880  |  |
| Ala  | Ala | Arg | Leu | Arg | His  | Glu | Glu | Glu | Glu | Arg  | Lys | Arg | Lys | Glu | Leu  |  |
| 885  |     |     |     |     | 890  |     |     |     |     | 895  |     |     |     |     |      |  |
| Glu  | Val | Gln | Arg | Gln | Lys  | Glu | Leu | Met | Arg | Gln  | Arg | Gln | Gln | Gln | Gln  |  |
| 900  |     |     |     |     | 905  |     |     |     |     | 910  |     |     |     |     |      |  |
| Glu  | Ala | Leu | Arg | Arg | Leu  | Gln | Gln | Gln | Gln | Gln  | Gln | Gln | Gln | Leu | Ala  |  |
| 915  |     |     |     |     | 920  |     |     |     |     | 925  |     |     |     |     |      |  |
| Gln  | Met | Lys | Leu | Pro | Ser  | Ser | Ser | Thr | Trp | Gly  | Gln | Gln | Ser | Asn | Thr  |  |
| 930  |     |     |     |     | 935  |     |     |     |     | 940  |     |     |     |     |      |  |
| Thr  | Ala | Cys | Gln | Ser | Gln  | Ala | Thr | Leu | Ser | Leu  | Ala | Glu | Ile | Gln | Lys  |  |
| 945  |     |     |     |     | 950  |     |     |     |     | 955  |     |     |     |     | 960  |  |
| Leu  | Glu | Glu | Glu | Arg | Glu  | Arg | Gln | Leu | Arg | Glu  | Glu | Gln | Arg | Arg | Gln  |  |
| 965  |     |     |     |     | 970  |     |     |     |     | 975  |     |     |     |     |      |  |
| Gln  | Arg | Glu | Leu | Met | Lys  | Ala | Leu | Gln | Gln | Gln  | Gln | Gln | Gln | Gln | Gln  |  |
| 980  |     |     |     |     | 985  |     |     |     |     | 990  |     |     |     |     |      |  |
| Gln  | Lys | Leu | Ser | Gly | Trp  | Gly | Asn | Val | Ser | Lys  | Pro | Ser | Gly | Thr | Thr  |  |
| 995  |     |     |     |     | 1000 |     |     |     |     | 1005 |     |     |     |     |      |  |
| Lys  | Ser | Leu | Leu | Glu | Ile  | Gln | Gln | Glu | Glu | Ala  | Arg | Gln | Met | Gln | Lys  |  |
| 1010 |     |     |     |     | 1015 |     |     |     |     | 1020 |     |     |     |     |      |  |
| Gln  | Gln | Gln | Gln | Gln | Gln  | Gln | Gln | His | Gln | Gln  | Pro | Asn | Arg | Ala | Arg  |  |
| 1025 |     |     |     |     | 1030 |     |     |     |     | 1035 |     |     |     |     | 1040 |  |
| Asn  | Thr | His | Ser | Asn | Leu  | His | Thr | Ser | Ile | Gly  | Asn | Ser | Val | Trp | Gly  |  |
| 1045 |     |     |     |     | 1050 |     |     |     |     | 1055 |     |     |     |     |      |  |
| Ser  | Ile | Asn | Thr | Gly | Pro  | Pro | Asn | Gln | Trp | Ala  | Ser | Asp | Leu | Val | Ser  |  |
| 1060 |     |     |     |     | 1065 |     |     |     |     | 1070 |     |     |     |     |      |  |
| Ser  | Ile | Trp | Ser | Asn | Ala  | Asp | Thr | Lys | Asn | Ser  | Asn | Met | Gly | Phe | Trp  |  |
| 1075 |     |     |     |     | 1080 |     |     |     |     | 1085 |     |     |     |     |      |  |
| Asp  | Asp | Ala | Val | Lys | Glu  | Val | Gly | Pro | Arg | Asn  | Ser | Thr | Asn | Lys | Asn  |  |
| 1090 |     |     |     |     | 1095 |     |     |     |     | 1100 |     |     |     |     |      |  |
| Lys  | Asn | Asn | Ala | Ser | Leu  | Ser | Lys | Ser | Val | Gly  | Val | Ser | Asn | Arg | Gln  |  |
| 1105 |     |     |     |     | 1110 |     |     |     |     | 1115 |     |     |     |     | 1120 |  |
| Asn  | Lys | Lys | Val | Glu | Glu  | Glu | Glu | Lys | Leu | Leu  | Lys | Leu | Phe | Gln | Gly  |  |
| 1125 |     |     |     |     | 1130 |     |     |     |     | 1135 |     |     |     |     |      |  |
| Val  | Asn | Lys | Ala | Gln | Asp  | Gly | Phe | Thr | Gln | Trp  | Cys | Glu | Gln | Met | Leu  |  |
| 1140 |     |     |     |     | 1145 |     |     |     |     | 1150 |     |     |     |     |      |  |
| His  | Ala | Leu | Asn | Thr | Ala  | Asn | Asn | Leu | Asp | Val  | Pro | Thr | Phe | Val | Ser  |  |
| 1155 |     |     |     |     | 1160 |     |     |     |     | 1165 |     |     |     |     |      |  |
| Phe  | Leu | Lys | Glu | Val | Glu  | Ser | Pro | Tyr | Glu | Val  | His | Asp | Tyr | Ile | Arg  |  |
| 1170 |     |     |     |     | 1175 |     |     |     |     | 1180 |     |     |     |     |      |  |
| Ala  | Tyr | Leu | Gly | Asp | Thr  | Ser | Glu | Ala | Lys | Glu  | Phe | Ala | Lys | Gln | Phe  |  |
| 1185 |     |     |     |     | 1190 |     |     |     |     | 1195 |     |     |     |     | 1200 |  |
| Leu  | Glu | Arg | Arg | Ala | Lys  | Gln | Lys | Ala | Asn | Gln  | Gln | Arg | Gln | Gln | Gln  |  |
| 1205 |     |     |     |     | 1210 |     |     |     |     | 1215 |     |     |     |     |      |  |
| Gln  | Leu | Pro | Gln | Gln | Gln  | Gln | Gln | Pro | Pro | Gln  | Gln | Pro | Pro | Gln | Gln  |  |
| 1220 |     |     |     |     | 1225 |     |     |     |     | 1230 |     |     |     |     |      |  |
| Pro  | Gln | Gln | Gln | Asp | Ser  | Val | Trp | Gly | Met | Asn  | His | Ser | Thr | Leu | His  |  |
| 1235 |     |     |     |     | 1240 |     |     |     |     | 1245 |     |     |     |     |      |  |
| Ser  | Val | Phe | Gln | Thr | Asn  | Gln | Ser | Asn | Asn | Gln  | Gln | Ser | Asn | Phe | Glu  |  |

|   |      |      |
|---|------|------|
| 1250  | 1255 | 1260 |
| Ala Val Gln Ser Gly Lys Lys Lys Lys Lys Gln Lys Met Val Arg Ala |      |      |
| 1265  | 1270 | 1275 |
| Asp Pro Ser Leu Leu Gly Phe Ser Val Asn Ala Ser Ser Glu Arg Leu |      | 1280 |
|   | 1285 | 1290 |
| Asn Met Gly Glu Ile Glu Thr Leu Asp Asp Tyr                     |      | 1295 |
|   | 1300 | 1305 |
|   |      | 1307 |

<210> 3085  
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<400> 3085

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Ile | Val | Lys | Ile | Arg | Lys | Arg | Met | Ala | Ala | Glu | Thr | Gln | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Asn | Phe | Gly | Pro | Glu | Trp | Leu | Arg | Ala | Leu | Ser | Ser | Gly | Gly | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Thr | Ser | Pro | Pro | Leu | Ser | Pro | Ala | Leu | Pro | Lys | Tyr | Lys | Leu | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Tyr | Arg | Tyr | Gly | Arg | Glu | Glu | Met | Leu | Ala | Leu | Phe | Leu | Lys | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Lys | Ile | Pro | Ser | Asp | Leu | Leu | Asp | Lys | Glu | Phe | Leu | Pro | Ile | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Glu | Glu | Pro | Leu | Pro | Pro | Leu | Ala | Leu | Val | Pro | Phe | Thr | Glu | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Gln | Arg | Asn | Phe | Ser | Met | Ser | Val | Asn | Ser | Ala | Ala | Val | Leu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Thr | Gly | Arg | Gly | Gly | Gly | Gly | Thr | Val | Val | Gly | Ala | Pro | Arg | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Ser | Ser | Ser | Arg | Gly | Arg | Gly | Arg | Gly | Arg | Gly | Glu | Cys | Gly | Phe |
|     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |
| Tyr | Gln | Arg | Ser | Phe | Asp | Glu | Val | Glu | Gly | Val | Phe | Gly | Arg | Gly | Gly |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Gly | Arg | Glu | Met | His | Arg | Ser | Gln | Ser | Trp | Glu | Glu | Arg | Gly | Asp | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Phe | Glu | Lys | Pro | Gly | Arg | Lys | Asp | Val | Gly | Arg | Pro | Asn | Phe | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Gly | Gly | Pro | Thr | Ser | Val | Gly | Arg | Lys | His | Glu | Phe | Ile | Arg | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Ser | Glu | Asn | Trp | Arg | Ile | Phe | Arg | Glu | Glu | Gln | Asn | Gly | Glu | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Asp | Gly | Gly | Trp | Arg | Leu | Ala | Gly | Ser | Arg | Arg | Asp | Gly | Glu | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Trp | Arg | Pro | His | Ser | Pro | Asp | Gly | Pro | Arg | Ser | Ala | Gly | Trp | Arg | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| His | Met | Glu | Arg | Arg | Arg | Arg | Phe | Glu | Phe | Asp | Phe | Arg | Asp | Arg | Asp |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asp | Glu | Arg | Gly | Tyr | Arg | Arg | Val | Arg | Ser | Gly | Ser | Gly | Ser | Ile | Asp |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asp | Asp | Arg | Asp | Ser | Leu | Pro | Glu | Trp | Cys | Leu | Glu | Asp | Ala | Glu | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Glu | Met | Gly | Thr | Phe | Asp | Ser | Ser | Gly | Ala | Phe | Leu | Ser | Leu | Lys | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Gln | Lys | Glu | Pro | Ile | Pro | Glu | Glu | Gln | Glu | Met | Asp | Phe | Arg | Pro |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Asp | Glu | Gly | Glu | Glu | Cys | Ser | Asp | Ser | Glu | Gly | Ser | His | Asn | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Ala | Lys | Glu | Pro | Asp | Lys | Thr | Asn | Lys | Lys | Glu | Gly | Glu | Lys | Thr |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asp | Arg | Val | Gly | Val | Glu | Ala | Ser | Glu | Glu | Thr | Pro | Gln | Thr | Ser | Ser |

|   |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|---|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|
| 370   | 375 | 380 |     |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser Ser Ala Arg Pro Gly Thr Pro Ser Asp His Gln Ser Gln Glu Ala |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
| 385   | 390 | 395 | 400 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser Gln Phe Glu Arg Lys Asp Glu Pro Lys Thr Glu Gln Thr Glu Lys |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 405 | 410 | 415 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala Glu Glu Glu Thr Arg Met Glu Asn Ser Leu Pro Ala Lys Val Pro |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 420 | 425 | 430 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ser Arg Gly Asp Glu Met Val Ala Asp Val Gln Gln Pro Leu Ser Gln |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 435 | 440 | 445 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ile Pro Ser Asp Thr Ala Ser Pro Leu Leu Ile Leu Pro Pro Pro Val |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 450 | 455 | 460 |  |  |  |  |  |  |  |  |  |  |  |  |
| Pro Asn Pro Ser Pro Thr Leu Arg Pro Val Glu Thr Pro Val Val Gly |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 465 | 470 | 475 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala Pro Gly Met Gly Ser Val Ser Thr Glu Pro Asp Asp Glu Glu Gly |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 485 | 490 | 495 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Lys His Leu Glu Gln Gln Ala Glu Lys Met Val Ala Tyr Leu Gln |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 500 | 505 | 510 |  |  |  |  |  |  |  |  |  |  |  |  |
| Asp Ser Ala Leu Asp Asp Glu Arg Leu Ala Ser Lys Leu Gln Glu His |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 515 | 520 | 525 |  |  |  |  |  |  |  |  |  |  |  |  |
| Arg Ala Lys Gly Val Ser Ile Pro Leu Met His Glu Ala Met Gln Lys |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 530 | 535 | 540 |  |  |  |  |  |  |  |  |  |  |  |  |
| Trp Tyr Tyr Lys Asp Pro Gln Gly Glu Ile Gln Gly Pro Phe Asn Asn |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 545 | 550 | 555 |  |  |  |  |  |  |  |  |  |  |  |  |
| Gln Glu Met Ala Glu Trp Phe Gln Ala Gly Tyr Phe Thr Met Ser Leu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 565 | 570 | 575 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Val Lys Arg Ala Cys Asp Glu Ser Phe Gln Pro Leu Gly Asp Ile |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 580 | 585 | 590 |  |  |  |  |  |  |  |  |  |  |  |  |
| Met Lys Met Trp Gly Arg Val Pro Phe Ser Pro Gly Pro Ala Pro Pro |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 595 | 600 | 605 |  |  |  |  |  |  |  |  |  |  |  |  |
| Pro His Met Gly Glu Leu Asp Gln Glu Arg Leu Thr Arg Gln Gln Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 610 | 615 | 620 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Thr Ala Leu Tyr Gln Met Gln His Leu Gln Tyr Gln Gln Phe Leu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 625 | 630 | 635 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ile Gln Gln Gln Tyr Ala Gln Val Leu Ala Gln Gln Gln Lys Ala Ala |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 645 | 650 | 655 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Ser Ser Gln Gln Gln Gln Gln Leu Ala Leu Leu Leu Gln Gln Phe |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 660 | 665 | 670 |  |  |  |  |  |  |  |  |  |  |  |  |
| Gln Thr Leu Lys Met Arg Ile Ser Asp Gln Asn Ile Ile Pro Ser Val |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 675 | 680 | 685 |  |  |  |  |  |  |  |  |  |  |  |  |
| Thr Arg Ser Val Ser Val Pro Asp Thr Gly Ser Ile Trp Glu Leu Gln |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 690 | 695 | 700 |  |  |  |  |  |  |  |  |  |  |  |  |
| Pro Thr Ala Ser Gln Pro Thr Val Trp Glu Gly Gly Ser Val Trp Asp |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 705 | 710 | 715 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Pro Leu Asp Thr Thr Thr Pro Gly Pro Ala Leu Glu Gln Leu Gln |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 725 | 730 | 735 |  |  |  |  |  |  |  |  |  |  |  |  |
| Gln Leu Glu Lys Ala Lys Ala Ala Lys Leu Glu Gln Glu Arg Arg Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 740 | 745 | 750 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala Glu Met Arg Ala Lys Arg Glu Glu Glu Glu Arg Lys Arg Gln Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 755 | 760 | 765 |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu Leu Arg Arg Arg Gln Lys Gly Ile Leu Arg Arg Gln Gln Glu Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 770 | 775 | 780 |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu Arg Lys Arg Arg Glu Glu Glu Glu Leu Ala Arg Arg Lys Gln Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 785 | 790 | 795 |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu Ala Leu Arg Arg Gln Arg Glu Gln Glu Ile Ala Leu Arg Arg Gln |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 805 | 810 | 815 |  |  |  |  |  |  |  |  |  |  |  |  |
| Arg Glu Glu Glu Glu Arg Gln Gln Gln Glu Glu Ala Leu Arg Arg Leu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 820 | 825 | 830 |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu Glu Arg Arg Arg Glu Glu Glu Glu Arg Arg Lys Gln Glu Glu Leu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 835 | 840 | 845 |  |  |  |  |  |  |  |  |  |  |  |  |
| Leu Arg Lys Gln Glu Glu Glu Ala Ala Lys Trp Ala Arg Glu Glu Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 850 | 855 | 860 |  |  |  |  |  |  |  |  |  |  |  |  |
| Glu Ala Gln Arg Arg Leu Glu Glu Asn Arg Leu Arg Met Glu Glu Glu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 865 | 870 | 875 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ala Ala Arg Leu Arg His Glu Glu Glu Glu Arg Lys Arg Lys Glu Leu |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |

```
<210> 3086
<211> 219
<212> PRT
<213> Homo sapiens
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4760

|                 |   |                         |         |
|-----------------|---|-------------------------|---------|
| 1               | 5   | 10                      | 15      |
| Leu Ser Met Ala | Leu Ser Trp Val                                 | Leu Thr Val Leu Ser Leu | Leu Pro |
| 20              | 25  | 30                      |         |
| Leu Leu Glu Ala | Gln Ile Pro Leu Cys Ala Asn Leu Val Pro         | Val Pro                 |         |
| 35              | 40  | 45                      |         |
| Ile Thr Asn Ala | Thr Leu Asp Arg Ile Thr Gly Lys Trp Phe Tyr Ile |                         |         |
| 50              | 55  | 60                      |         |
| Ala Ser Ala Phe | Arg Asn Glu Glu Tyr Asn Lys Ser Val Gln Glu Ile |                         |         |
| 65              | 70  | 75                      | 80      |
| Gln Ala Thr Phe | Phe Tyr Phe Thr Pro Asn Lys Thr Glu Asp Thr Ile |                         |         |
| 85              | 90  | 95                      |         |
| Phe Leu Arg Glu | Tyr Gln Thr Arg Gln Asp Gln Cys Ile Tyr Asn Thr |                         |         |
| 100             | 105   | 110                     |         |
| Thr Tyr Leu Asn | Val Gln Arg Glu Asn Gly Thr Ile Ser Arg Tyr Val |                         |         |
| 115             | 120   | 125                     |         |
| Gly Gly Gln Glu | His Phe Ala His Leu Leu Ile Leu Arg Asp Thr Lys |                         |         |
| 130             | 135   | 140                     |         |
| Thr Tyr Met Leu | Ala Phe Asp Val Asn Asp Glu Lys Asn Trp Gly Leu |                         |         |
| 145             | 150   | 155                     | 160     |
| Ser Val Tyr Ala | Asp Lys Pro Glu Thr Thr Lys Glu Gln Leu Gly Glu |                         |         |
| 165             | 170   | 175                     |         |
| Phe Tyr Glu Ala | Leu Asp Cys Leu Arg Ile Pro Lys Ser Asp Val Val |                         |         |
| 180             | 185   | 190                     |         |
| Tyr Thr Asp Trp | Lys Lys Asp Lys Cys Glu Pro Leu Glu Lys Gln His |                         |         |
| 195             | 200   | 205                     |         |
| Glu Lys Glu Arg | Lys Gln Glu Glu Gly Glu Ser                     |                         |         |
| 210             | 215   | 219                     |         |

&lt;210&gt; 3087

&lt;211&gt; 525

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3087

|                 |   |
|-----------------|---|
| Cys Thr Pro Val | Ala Arg Ser Met Ala Thr Thr Ala Thr Cys Thr Arg |
| 1               | 5 10 15   |
| Phe Thr Asp Asp | Tyr Gln Leu Phe Glu Leu Gly Lys Gly Ala Phe     |
| 20              | 25 30   |
| Ser Val Val Arg | Arg Cys Val Lys Lys Thr Ser Thr Gln Glu Tyr Ala |
| 35              | 40 45   |
| Ala Lys Ile Ile | Asn Thr Lys Lys Leu Ser Ala Arg Asp His Gln Lys |
| 50              | 55 60   |
| Leu Glu Arg Glu | Ala Arg Ile Cys Arg Leu Leu Lys His Pro Asn Ile |
| 65              | 70 75 80  |
| Val Arg Leu His | Asp Ser Ile Ser Glu Glu Gly Phe His Tyr Leu Val |
| 85              | 90 95   |
| Phe Asp Leu Val | Thr Gly Gly Glu Leu Phe Glu Asp Ile Val Ala Arg |
| 100             | 105 110   |
| Glu Tyr Tyr Ser | Glu Ala Asp Ala Ser His Cys Ile His Gln Ile Leu |
| 115             | 120 125   |
| Glu Ser Val Asn | His Ile His Gln His Asp Ile Val His Arg Asp Leu |
| 130             | 135 140   |
| Lys Pro Glu Asn | Leu Leu Leu Ala Ser Lys Cys Lys Gly Ala Ala Val |
| 145             | 150 155 160                                     |
| Lys Leu Ala Asp | Phe Gly Leu Ala Ile Glu Val Gln Gly Glu Gln Gln |
| 165             | 170 175   |
| Ala Trp Phe Gly | Phe Ala Gly Thr Pro Gly Tyr Leu Ser Pro Glu Val |
| 180             | 185 190   |
| Leu Arg Lys Asp | Pro Tyr Gly Lys Pro Val Asp Ile Trp Ala Cys Gly |
| 195             | 200 205   |
| Val Ile Leu Tyr | Ile Leu Leu Val Gly Tyr Pro Pro Phe Trp Asp Glu |



|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Asp Gln His Lys Leu Tyr Gln Gln Ile Lys Ala Gly Ala Tyr Asp Phe |     |     |
| 225   | 230 | 235 |
| Pro Ser Pro Glu Trp Asp Thr Val Thr Pro Glu Ala Lys Asn Leu Ile |     | 240 |
|   | 245 | 250 |
| Asn Gln Met Leu Thr Ile Asn Pro Ala Lys Arg Ile Thr Ala Asp Gln |     | 255 |
|   | 260 | 265 |
| Ala Leu Lys His Pro Trp Val Cys Gln Arg Ser Thr Val Ala Ser Met |     | 270 |
|   | 275 | 280 |
| Met His Arg Gln Glu Thr Val Glu Cys Leu Arg Lys Phe Asn Ala Arg |     | 285 |
|   | 290 | 295 |
| Arg Lys Leu Lys Gly Ala Ile Leu Thr Thr Met Leu Val Ser Arg Asn |     | 300 |
| 305   | 310 | 315 |
| Phe Ser Ala Ala Lys Ser Leu Leu Asn Lys Lys Ser Asp Gly Gly Val |     | 320 |
|   | 325 | 330 |
| Lys Pro Gln Ser Asn Asn Lys Asn Ser Leu Val Ser Pro Ala Gln Glu |     | 335 |
|   | 340 | 345 |
| Pro Ala Pro Leu Gln Thr Ala Met Glu Pro Gln Thr Thr Val Val His |     | 350 |
|   | 355 | 360 |
| Asn Ala Thr Asp Gly Ile Lys Gly Ser Thr Glu Ser Cys Asn Thr Thr |     | 365 |
|   | 370 | 375 |
| Thr Glu Asp Glu Asp Leu Lys Val Arg Lys Gln Glu Ile Ile Lys Ile |     | 380 |
| 385   | 390 | 395 |
| Thr Glu Gln Leu Ile Glu Ala Ile Asn Asn Gly Asp Phe Glu Ala Tyr |     | 400 |
|   | 405 | 410 |
| Thr Lys Ile Cys Asp Pro Gly Leu Thr Ser Phe Glu Pro Glu Ala Leu |     | 415 |
|   | 420 | 425 |
| Gly Asn Leu Val Glu Gly Met Asp Phe His Lys Phe Tyr Phe Glu Asn |     | 430 |
|   | 435 | 440 |
| Leu Leu Ser Lys Asn Ser Lys Pro Ile His Thr Thr Ile Leu Asn Pro |     | 445 |
|   | 450 | 455 |
| His Val His Val Ile Gly Glu Asp Ala Ala Cys Ile Ala Tyr Ile Arg |     | 460 |
| 465   | 470 | 475 |
| Leu Thr Gln Tyr Ile Asp Gly Gln Gly Arg Pro Arg Thr Ser Gln Ser |     | 480 |
|   | 485 | 490 |
| Glu Glu Thr Arg Val Trp His Arg Arg Asp Gly Lys Trp Leu Asn Val |     | 495 |
|   | 500 | 505 |
| His Tyr His Cys Ser Gly Ala Pro Ala Ala Pro Leu Gln             |     | 510 |
|   | 515 | 520 |
|   |     | 525 |

&lt;210&gt; 3088

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3088

|   |     |     |
|---|-----|-----|
| Ser Ser Val Ala Glu Phe Pro Glu Arg Val Gln Leu Ser Gln Pro Gln |     |     |
| 1   | 5   | 10  |
| Asn Trp Asn Phe Ser Gly Ala Gly Gly Ala Trp Ser Leu Asp Phe Ala |     | 15  |
|   | 20  | 25  |
| Glu Gln Leu Lys Trp Ser Ala Glu Leu Ala Arg Leu Gly Glu Ser Ile |     | 30  |
|   | 35  | 40  |
| Met Asp Gly Lys Gln Gly Gly Met Asp Gly Ser Lys Pro Ala Gly Pro |     | 45  |
|   | 50  | 55  |
| Arg Asp Phe Pro Gly Ile Arg Leu Leu Ser Asn Pro Leu Met Gly Asp |     | 60  |
| 65  | 70  | 75  |
| Ala Val Ser Asp Trp Ser Pro Met His Glu Ala Ala Ile His Gly His |     | 80  |
|   | 85  | 90  |
| Gln Leu Ser Leu Arg Asn Leu Ile Ser Gln Gly Trp Ala Val Asn Ile |     | 95  |
|   | 100 | 105 |
| Ile Thr Ala Asp His Val Ser Pro Leu His Glu Ala Cys Leu Gly Gly |     | 110 |

|   |                                     |     |
|---|-------------------------------------|-----|
| 115   | 120                                 | 125 |
| His Leu Ser Cys Val Lys Ile                                     | Leu Leu Lys His Gly Ala Gln Val Asn |     |
| 130   | 135                                 | 140 |
| Gly Val Thr Ala Asp Trp His Thr Pro Leu Phe Asn Ala Cys Val Ser |                                     |     |
| 145   | 150                                 | 155 |
| Gly Ser Trp Asp Cys Val Asn Leu Leu Leu Gln His Gly Ala Ser Val |                                     |     |
| 165   | 170                                 | 175 |
| Gln Pro Glu Ser Asp Leu Ala Ser Pro Ile His Glu Ala Ala Arg Arg |                                     |     |
| 180   | 185                                 | 190 |
| Gly His Val Glu Cys Val Asn Ser Leu Ile Ala Tyr Gly Gly Asn Ile |                                     |     |
| 195   | 200                                 | 205 |
| Asp His Lys Ile Ser His Leu Gly Thr Pro Leu Tyr Leu Ala Cys Glu |                                     |     |
| 210   | 215                                 | 220 |
| Asn Gln Gln Arg Ala Cys Val Lys Lys Leu Leu Glu Ser Gly Ala Asp |                                     |     |
| 225   | 230                                 | 235 |
| Val Asn Gln Gly Lys Gly Gln Asp Ser Pro Leu His Ala Val Ala Arg |                                     |     |
| 245   | 250                                 | 255 |
| Thr Ala Ser Glu Glu Leu Ala Cys Leu Leu Met Asp Phe Gly Ala Asp |                                     |     |
| 260   | 265                                 | 270 |
| Thr Gln Ala Lys Asn Ala Glu Gly Lys Arg Pro Val Glu Leu Val Pro |                                     |     |
| 275   | 280                                 | 285 |
| Pro Glu Ser Pro Leu Ala Gln Leu Phe Leu Glu Arg Glu Gly Pro Pro |                                     |     |
| 290   | 295                                 | 300 |
| Ser Leu Met Gln Leu Cys Arg Leu Arg Ile Arg Lys Cys Phe Gly Ile |                                     |     |
| 305   | 310                                 | 315 |
| Gln Gln His His Lys Ile Thr Lys Leu Val Leu Pro Glu Asp Leu Lys |                                     |     |
| 325   | 330                                 | 335 |
| Gln Phe Leu Leu His Leu   |                                     |     |
| 340   | 342                                 |     |

<210> 3089  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3089  |
| Asp Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly |
| 1 5 10 15   |
| Val Cys Ala His His Ile Ile Pro Thr Gly Ser Val Val Leu Pro Ser |
| 20 25 30  |
| Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn Arg Val |
| 35 40 45  |
| Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala Gly Val |
| 50 55 60  |
| Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro Lys Gln |
| 65 70 75 80   |
| Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln Lys Lys |
| 85 90 95  |
| Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val Gln Arg |
| 100 105 110   |
| Tyr Pro Gly Asn Gln Thr Thr Cys                                 |
| 115 120   |

<210> 3090  
 <211> 1338  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3090

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Leu Met Glu Ala Gly Gly Gly Gly Gly Ala Leu Pro Ala Gly Val Glu
 1          5          10          15
Thr Met Val Leu Thr Leu Gly Glu Ser Trp Pro Val Leu Val Gly Arg
          20          25          30
Arg Phe Leu Ser Leu Ser Ala Ala Asp Gly Ser Asp Gly Ser His Asp
          35          40          45
Ser Trp Asp Val Glu Arg Val Ala Glu Trp Pro Trp Leu Ser Gly Thr
          50          55          60
Ile Arg Ala Val Ser His Thr Asp Val Thr Lys Lys Asp Leu Lys Val
          65          70          75          80
Cys Val Glu Phe Asp Gly Glu Ser Trp Arg Lys Arg Arg Trp Ile Glu
          85          90          95
Val Tyr Ser Leu Leu Arg Arg Ala Phe Leu Val Glu His Asn Leu Val
          100          105          110
Leu Ala Glu Arg Lys Ser Pro Glu Ile Ser Glu Arg Ile Val Gln Trp
          115          120          125
Pro Ala Ile Thr Tyr Lys Pro Leu Leu Asp Lys Ala Gly Leu Gly Ser
          130          135          140
Ile Thr Ser Val Arg Phe Leu Gly Asp Gln Gln Arg Val Phe Leu Ser
          145          150          155          160
Lys Asp Leu Leu Lys Pro Ile Gln Asp Val Asn Ser Leu Arg Leu Ser
          165          170          175
Leu Thr Asp Asn Gln Ile Val Ser Lys Glu Phe Gln Ala Leu Ile Val
          180          185          190
Lys His Leu Asp Glu Ser His Leu Leu Lys Gly Asp Lys Asn Leu Val
          195          200          205
Gly Ser Glu Val Lys Ile Tyr Ser Leu Asp Pro Ser Thr Gln Trp Phe
          210          215          220
Ser Ala Thr Val Val Asn Gly Asn Pro Ala Ser Lys Thr Leu Gln Val
          225          230          235          240
Asn Cys Glu Glu Ile Pro Ala Leu Lys Ile Val Asp Pro Ser Leu Ile
          245          250          255
His Val Glu Val Val His Asp Asn Leu Val Thr Cys Gly Asn Ser Ala
          260          265          270
Arg Ile Gly Ala Val Lys Arg Lys Ser Ser Glu Asn Asn Gly Thr Leu
          275          280          285
Val Ser Lys Gln Ala Lys Ser Cys Ser Glu Ala Ser Pro Ser Met Cys
          290          295          300
Pro Val Gln Ser Val Pro Thr Thr Val Phe Lys Glu Ile Leu Leu Gly
          305          310          315          320
Cys Thr Ala Ala Thr Pro Pro Ser Lys Asp Pro Arg Gln Gln Ser Thr
          325          330          335
Pro Gln Ala Ala Asn Ser Pro Pro Asn Leu Gly Ala Lys Ile Pro Gln
          340          345          350
Gly Cys His Lys Gln Ser Leu Pro Glu Glu Ile Ser Ser Cys Leu Asn
          355          360          365
Thr Lys Ser Glu Ala Leu Arg Thr Lys Pro Asp Val Cys Lys Ala Gly
          370          375          380
Leu Leu Ser Lys Ser Ser Gln Ile Gly Thr Gly Asp Leu Lys Ile Leu
          385          390          395          400
Thr Glu Pro Lys Gly Ser Cys Thr Gln Pro Lys Thr Asn Thr Asp Gln
          405          410          415
Glu Asn Arg Leu Glu Ser Val Pro Gln Ala Leu Thr Gly Leu Pro Lys
          420          425          430
Glu Cys Leu Pro Thr Lys Ala Ser Ser Lys Ala Glu Leu Glu Ile Ala
          435          440          445
Asn Pro Pro Glu Leu Gln Lys His Leu Glu His Ala Pro Ser Pro Ser
          450          455          460
Asp Val Ser Asn Ala Pro Glu Val Lys Ala Gly Val Asn Ser Asp Ser
          465          470          475          480
Pro Asn Asn Cys Ser Gly Lys Lys Val Glu Pro Ser Ala Leu Ala Cys
          485          490          495
Arg Ser Gln Asn Leu Lys Glu Ser Ser Val Lys Val Asp Asn Glu Ser

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4765

1010 1015 1020  
 Asn Cys Arg Thr Asn Glu Ile Ile Thr Gly Ala Thr Val Gly Asp Phe  
 1025 1030 1035 1040  
 Trp Asp Gly Phe Glu Asp Val Pro Asn Arg Leu Lys Asn Glu Lys Glu  
 1045 1050 1055  
 Pro Met Val Leu Lys Leu Lys Asp Trp Pro Pro Gly Glu Asp Phe Arg  
 1060 1065 1070  
 Asp Met Met Pro Ser Arg Phe Asp Asp Leu Met Ala Asn Ile Pro Leu  
 1075 1080 1085  
 Pro Glu Tyr Thr Arg Arg Asp Gly Lys Leu Asn Leu Ala Ser Arg Leu  
 1090 1095 1100  
 Pro Asn Tyr Phe Val Arg Pro Asp Leu Gly Pro Lys Met Tyr Asn Ala  
 1105 1110 1115 1120  
 Tyr Gly Leu Ile Thr Pro Glu Asp Arg Lys Tyr Gly Thr Thr Asn Leu  
 1125 1130 1135  
 His Leu Asp Val Ser Asp Ala Ala Asn Val Met Val Tyr Val Gly Ile  
 1140 1145 1150  
 Pro Lys Gly Gln Cys Glu Gln Glu Glu Val Leu Lys Thr Ile Gln  
 1155 1160 1165  
 Asp Gly Asp Ser Asp Glu Leu Thr Ile Lys Arg Phe Ile Glu Gly Lys  
 1170 1175 1180  
 Glu Lys Pro Gly Ala Leu Trp His Ile Tyr Ala Ala Lys Asp Thr Glu  
 1185 1190 1195 1200  
 Lys Ile Arg Glu Phe Leu Lys Lys Val Ser Glu Glu Gln Gly Gln Glu  
 1205 1210 1215  
 Asn Pro Ala Asp His Asp Pro Ile His Asp Gln Ser Trp Tyr Leu Asp  
 1220 1225 1230  
 Arg Ser Leu Arg Lys Arg Leu His Gln Glu Tyr Gly Val Gln Gly Trp  
 1235 1240 1245  
 Ala Ile Val Gln Phe Leu Gly Asp Val Val Phe Ile Pro Ala Gly Ala  
 1250 1255 1260  
 Pro His Gln Val His Asn Leu Tyr Ser Cys Ile Lys Val Ala Glu Asp  
 1265 1270 1275 1280  
 Phe Val Ser Pro Glu His Val Lys His Cys Phe Trp Leu Thr Gln Glu  
 1285 1290 1295  
 Phe Arg Tyr Leu Ser Gln Thr His Thr Asn His Glu Asp Lys Leu Gln  
 1300 1305 1310  
 Val Lys Asn Val Ile Tyr His Ala Val Lys Asp Ala Val Ala Met Leu  
 1315 1320 1325  
 Lys Ala Ser Glu Ser Ser Phe Gly Lys Pro  
 1330 1335 1338

&lt;210&gt; 3091

&lt;211&gt; 580

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3091

Lys Arg Gly Ala Arg Arg Gly Gly Trp Lys Arg Lys Met Pro Ser Thr  
 1 5 10 15  
 Asp Leu Leu Met Leu Lys Ala Phe Glu Pro Tyr Leu Glu Ile Leu Glu  
 20 25 30  
 Val Tyr Ser Thr Lys Ala Lys Asn Tyr Val Asn Gly His Cys Thr Lys  
 35 40 45  
 Tyr Glu Pro Trp Gln Leu Ile Ala Trp Ser Val Val Trp Thr Leu Leu  
 50 55 60  
 Ile Val Trp Gly Tyr Glu Phe Val Phe Gln Pro Glu Ser Leu Trp Ser  
 65 70 75 80  
 Arg Phe Lys Lys Lys Cys Phe Lys Leu Thr Arg Lys Met Pro Ile Ile  
 85 90 95  
 Gly Arg Lys Ile Gln Asp Lys Leu Asn Lys Thr Lys Asp Asp Ile Ser



4767

<210> 3092  
 <211> 858  
 <212> PRT  
 <213> Homo sapiens

<400> 3092  
 Leu Cys Ser Gln Asn Ser Pro Glu Asp Trp Val Asn Phe Ser Ser Glu  
 1 5 10 15  
 Lys Gln Lys Arg Tyr Pro Trp Tyr Trp Thr Gly Arg Lys Leu Arg Ser  
 20 25 30  
 Glu Arg Ala Met Lys Ile Gln Lys Lys Leu Thr Gly Cys Ser Arg Leu  
 35 40 45  
 Met Leu Leu Cys Leu Ser Leu Glu Leu Leu Leu Glu Ala Gly Ala Gly  
 50 55 60  
 Asn Ile His Tyr Ser Val Pro Glu Glu Thr Asp Lys Gly Ser Phe Val  
 65 70 75 80  
 Gly Asn Ile Ala Lys Asp Leu Gly Leu Gln Pro Gln Glu Leu Ala Asp  
 85 90 95  
 Gly Gly Val Arg Ile Val Ser Arg Gly Arg Met Pro Leu Phe Ala Leu  
 100 105 110  
 Asn Pro Arg Ser Gly Ser Leu Ile Thr Ala Arg Arg Ile Asp Arg Glu  
 115 120 125  
 Glu Leu Cys Ala Gln Ser Met Pro Cys Leu Val Ser Phe Asn Ile Leu  
 130 135 140  
 Val Glu Asp Lys Met Lys Leu Phe Pro Val Glu Val Glu Ile Ile Asp  
 145 150 155 160  
 Ile Asn Asp Asn Thr Pro Gln Phe Gln Leu Glu Glu Leu Glu Phe Lys  
 165 170 175  
 Met Asn Glu Ile Thr Thr Pro Gly Thr Arg Val Ser Leu Pro Phe Gly  
 180 185 190  
 Gln Asp Leu Asp Val Gly Met Asn Ser Leu Gln Ser Tyr Gln Leu Ser  
 195 200 205  
 Ser Asn Pro His Phe Ser Leu Asp Val Gln Gln Gly Ala Asp Gly Pro  
 210 215 220  
 Gln His Pro Glu Met Val Leu Gln Ser Pro Leu Asp Arg Glu Glu Glu  
 225 230 235 240  
 Ala Val His His Leu Ile Leu Thr Ala Ser Asp Gly Gly Glu Pro Val  
 245 250 255  
 Arg Ser Gly Thr Leu Arg Ile Tyr Ile Gln Val Val Asp Ala Asn Asp  
 260 265 270  
 Asn Pro Pro Ala Phe Thr Gln Ala Gln Tyr His Ile Asn Val Pro Glu  
 275 280 285  
 Asn Val Pro Leu Gly Thr Gln Leu Leu Met Val Asn Ala Thr Asp Pro  
 290 295 300  
 Asp Glu Gly Ala Asn Gly Glu Val Thr Tyr Ser Phe His Asn Val Asp  
 305 310 315 320  
 His Arg Val Ala Gln Ile Phe Arg Leu Asp Ser Tyr Thr Gly Glu Ile  
 325 330 335  
 Ser Asn Lys Glu Pro Leu Asp Phe Glu Glu Tyr Lys Met Tyr Ser Met  
 340 345 350  
 Glu Val Gln Ala Gln Asp Gly Ala Gly Leu Met Ala Lys Val Lys Val  
 355 360 365  
 Leu Ile Lys Val Leu Asp Val Asn Asp Asn Ala Pro Glu Val Thr Ile  
 370 375 380  
 Thr Ser Val Thr Thr Ala Val Pro Glu Asn Phe Pro Pro Gly Thr Ile  
 385 390 395 400  
 Ile Ala Leu Ile Ser Val His Asp Gln Asp Ser Gly Asp Asn Gly Tyr  
 405 410 415  
 Thr Thr Cys Phe Ile Pro Gly Asn Leu Pro Phe Lys Leu Glu Lys Leu  
 420 425 430  
 Val Asp Asn Tyr Tyr Arg Leu Val Thr Glu Arg Thr Leu Asp Arg Glu  
 435 440 445  
 Leu Ile Ser Gly Tyr Asn Ile Thr Ile Thr Ala Ile Asp Gln Gly Thr

|   |     |     |     |  |  |
|---|-----|-----|-----|--|--|
| 450   | 455 | 460 |     |  |  |
| Pro Ala Leu Ser Thr Glu Thr His Ile Ser Leu Leu Val Thr Asp Ile |     |     |     |  |  |
| 465   | 470 | 475 | 480 |  |  |
| Asn Asp Asn Ser Pro Val Phe His Gln Asp Ser Tyr Ser Ala Tyr Ile |     |     |     |  |  |
|   | 485 | 490 | 495 |  |  |
| Pro Glu Asn Asn Pro Arg Gly Ala Ser Ile Phe Ser Val Arg Ala His |     |     |     |  |  |
|   | 500 | 505 | 510 |  |  |
| Asp Leu Asp Ser Asn Glu Asn Ala Gln Ile Thr Tyr Ser Leu Ile Glu |     |     |     |  |  |
|   | 515 | 520 | 525 |  |  |
| Asp Thr Ile Gln Gly Ala Pro Leu Ser Ala Tyr Leu Ser Ile Asn Ser |     |     |     |  |  |
|   | 530 | 535 | 540 |  |  |
| Asp Thr Gly Val Leu Tyr Ala Leu Arg Ser Phe Asp Tyr Glu Gln Phe |     |     |     |  |  |
| 545   | 550 | 555 | 560 |  |  |
| Arg Asp Met Gln Leu Lys Val Met Ala Arg Asp Ser Gly Asp Pro Pro |     |     |     |  |  |
|   | 565 | 570 | 575 |  |  |
| Leu Ser Ser Asn Val Ser Leu Ser Leu Phe Leu Leu Asp Gln Asn Asp |     |     |     |  |  |
|   | 580 | 585 | 590 |  |  |
| Asn Ala Pro Glu Ile Leu Tyr Pro Ala Leu Pro Thr Asp Gly Ser Thr |     |     |     |  |  |
|   | 595 | 600 | 605 |  |  |
| Gly Val Glu Leu Ala Pro Arg Ser Ala Glu Pro Gly Tyr Leu Val Thr |     |     |     |  |  |
|   | 610 | 615 | 620 |  |  |
| Lys Val Val Ala Val Asp Arg Asp Ser Gly Gln Asn Ala Trp Leu Ser |     |     |     |  |  |
| 625   | 630 | 635 | 640 |  |  |
| Tyr Arg Leu Leu Lys Ala Ser Glu Pro Gly Leu Phe Ser Val Gly Leu |     |     |     |  |  |
|   | 645 | 650 | 655 |  |  |
| His Thr Gly Glu Val Arg Thr Ala Arg Ala Leu Leu Asp Arg Asp Ala |     |     |     |  |  |
|   | 660 | 665 | 670 |  |  |
| Leu Lys Gln Ser Leu Val Val Ala Val Gln Asp His Gly Gln Pro Pro |     |     |     |  |  |
|   | 675 | 680 | 685 |  |  |
| Leu Ser Ala Thr Val Thr Leu Thr Val Ala Val Ala Asp Arg Ile Pro |     |     |     |  |  |
|   | 690 | 695 | 700 |  |  |
| Asp Ile Leu Ala Asp Leu Gly Ser Leu Glu Pro Ser Ala Lys Pro Asn |     |     |     |  |  |
| 705   | 710 | 715 | 720 |  |  |
| Asp Ser Asp Leu Thr Leu Tyr Leu Val Val Ala Glu Ala Ala Val Ser |     |     |     |  |  |
|   | 725 | 730 | 735 |  |  |
| Cys Val Phe Leu Ala Phe Val Ile Val Leu Leu Ala His Arg Leu Arg |     |     |     |  |  |
|   | 740 | 745 | 750 |  |  |
| Arg Trp His Lys Ser Arg Leu Leu Gln Ala Ser Gly Gly Gly Leu Ala |     |     |     |  |  |
|   | 755 | 760 | 765 |  |  |
| Ser Thr Pro Gly Ser His Phe Val Gly Val Asp Gly Val Arg Ala Phe |     |     |     |  |  |
|   | 770 | 775 | 780 |  |  |
| Leu Gln Thr Tyr Ser His Glu Val Ser Leu Thr Ala Asp Ser Arg Lys |     |     |     |  |  |
| 785   | 790 | 795 | 800 |  |  |
| Ser His Leu Ile Phe Pro Gln Pro Asn Tyr Ala Asp Thr Leu Ile Ser |     |     |     |  |  |
|   | 805 | 810 | 815 |  |  |
| Gln Glu Ser Cys Glu Lys Lys Gly Phe Leu Ser Ala Pro Gln Ser Leu |     |     |     |  |  |
|   | 820 | 825 | 830 |  |  |
| Leu Glu Asp Lys Lys Glu Pro Phe Ser Gln Val Asn Phe Cys Asp Glu |     |     |     |  |  |
|   | 835 | 840 | 845 |  |  |
| Cys Ile Ser Tyr Leu Glu Lys Asn Asn Ser                         |     |     |     |  |  |
| 850   | 855 | 858 |     |  |  |

&lt;210&gt; 3093

&lt;211&gt; 1289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3093

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Asp | Asn | Gln | Lys | Leu | Gly | Leu | Leu | Glu | Ala | Leu | Leu | Lys | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Asp | Trp | Gln | His | Ala | Gln | Asn | Ile | Met | Asp | Gln | Met | Pro | Pro | Tyr |

4770

|   |      |     |  |  |      |
|---|------|-----|--|--|------|
| 530   | 535  | 540 |  |  |      |
| Tyr Ile Thr Ser Cys Glu Met Val Met Ala Pro Val His Glu Ala Val |      |     |  |  |      |
| 545   | 550  | 555 |  |  | 560  |
| Val Ser Leu His Val Ser Lys Val Trp Asp Asp Ile Ser Pro Gln Phe |      |     |  |  |      |
| 565   | 570  |     |  |  | 575  |
| Tyr Ala Thr Phe Trp Ser Leu Thr Met Tyr Asp Leu Ala Val Pro His |      |     |  |  |      |
| 580   | 585  |     |  |  | 590  |
| Thr Ser Tyr Glu Arg Glu Val Asn Lys Leu Lys Val Gln Met Lys Ala |      |     |  |  |      |
| 595   | 600  |     |  |  | 605  |
| Ile Asp Asp Asn Gln Glu Met Pro Pro Asn Lys Lys Lys Lys Glu Lys |      |     |  |  |      |
| 610   | 615  |     |  |  | 620  |
| Glu Arg Cys Thr Ala Leu Gln Asp Lys Leu Leu Glu Glu Glu Lys Lys |      |     |  |  |      |
| 625   | 630  |     |  |  | 635  |
| Gln Met Glu His Val Gln Arg Val Leu Gln Arg Leu Lys Leu Glu Lys |      |     |  |  |      |
| 645   | 650  |     |  |  | 655  |
| Asp Asn Trp Leu Leu Ala Lys Ser Thr Lys Asn Glu Thr Ile Thr Lys |      |     |  |  |      |
| 660   | 665  |     |  |  | 670  |
| Phe Leu Gln Leu Cys Ile Phe Pro Arg Cys Ile Phe Ser Ala Ile Asp |      |     |  |  |      |
| 675   | 680  |     |  |  | 685  |
| Ala Val Tyr Cys Ala Arg Phe Val Glu Leu Val His Gln Gln Lys Thr |      |     |  |  |      |
| 690   | 695  |     |  |  | 700  |
| Pro Asn Phe Ser Thr Leu Leu Cys Tyr Asp Arg Val Phe Ser Asp Ile |      |     |  |  |      |
| 705   | 710  |     |  |  | 715  |
| Ile Tyr Thr Val Ala Ser Cys Thr Glu Asn Glu Ala Ser Arg Tyr Gly |      |     |  |  |      |
| 725   | 730  |     |  |  | 735  |
| Arg Phe Leu Cys Cys Met Leu Glu Thr Val Thr Arg Trp His Ser Asp |      |     |  |  |      |
| 740   | 745  |     |  |  | 750  |
| Arg Ala Thr Tyr Glu Lys Glu Cys Gly Asn Tyr Pro Gly Phe Leu Thr |      |     |  |  |      |
| 755   | 760  |     |  |  | 765  |
| Ile Leu Arg Ala Thr Gly Phe Asp Gly Gly Asn Lys Ala Asp Gln Leu |      |     |  |  |      |
| 770   | 775  |     |  |  | 780  |
| Asp Tyr Glu Asn Phe Arg His Val Val His Lys Trp His Tyr Lys Leu |      |     |  |  |      |
| 785   | 790  |     |  |  | 795  |
| Thr Lys Ala Ser Val His Cys Leu Glu Thr Gly Glu Tyr Thr His Ile |      |     |  |  |      |
| 805   | 810  |     |  |  | 815  |
| Arg Asn Ile Leu Ile Val Leu Thr Lys Ile Leu Pro Trp Tyr Pro Lys |      |     |  |  |      |
| 820   | 825  |     |  |  | 830  |
| Val Leu Asn Leu Gly Gln Ala Leu Glu Arg Arg Val His Lys Ile Cys |      |     |  |  |      |
| 835   | 840  |     |  |  | 845  |
| Gln Glu Glu Lys Glu Lys Arg Pro Asp Leu Tyr Ala Leu Ala Met Gly |      |     |  |  |      |
| 850   | 855  |     |  |  | 860  |
| Tyr Ser Gly Gln Leu Lys Ser Arg Lys Ser Tyr Met Ile Pro Glu Asn |      |     |  |  |      |
| 865   | 870  |     |  |  | 875  |
| Glu Phe His His Lys Asp Pro Pro Pro Arg Asn Ala Val Ala Ser Val |      |     |  |  |      |
| 885   | 890  |     |  |  | 895  |
| Gln Asn Gly Pro Gly Gly Gly Pro Ser Ser Ser Ser Ile Gly Ser Ala |      |     |  |  |      |
| 900   | 905  |     |  |  | 910  |
| Ser Lys Ser Asp Glu Ser Ser Thr Glu Glu Thr Asp Lys Ser Arg Glu |      |     |  |  |      |
| 915   | 920  |     |  |  | 925  |
| Arg Ser Gln Cys Gly Val Lys Ala Val Asn Lys Ala Ser Ser Thr Thr |      |     |  |  |      |
| 930   | 935  |     |  |  | 940  |
| Pro Lys Gly Asn Ser Ser Asn Gly Asn Ser Gly Ser Asn Ser Asn Lys |      |     |  |  |      |
| 945   | 950  |     |  |  | 955  |
| Ala Val Lys Glu Asn Asp Lys Glu Lys Gly Lys Glu Lys Glu Lys Glu |      |     |  |  |      |
| 965   | 970  |     |  |  | 975  |
| Lys Lys Glu Lys Thr Pro Ala Thr Thr Pro Glu Ala Arg Val Leu Gly |      |     |  |  |      |
| 980   | 985  |     |  |  | 990  |
| Lys Asp Gly Lys Glu Lys Pro Lys Glu Glu Arg Pro Asn Lys Asp Glu |      |     |  |  |      |
| 995   | 1000 |     |  |  | 1005 |
| Lys Ala Arg Glu Thr Lys Glu Arg Thr Pro Lys Ser Asp Lys Glu Lys |      |     |  |  |      |
| 1010  | 1015 |     |  |  | 1020 |
| Glu Lys Phe Lys Lys Glu Glu Lys Ala Lys Asp Glu Lys Phe Lys Thr |      |     |  |  |      |
| 1025  | 1030 |     |  |  | 1035 |
| Thr Val Pro Asn Ala Glu Ser Lys Ser Thr Gln Glu Arg Glu Arg Glu |      |     |  |  |      |



|   |      |      |      |      |      |
|---|------|------|------|------|------|
|   | 1045 |      | 1050 |      | 1055 |
| Lys Glu Pro Ser Arg Glu Arg Asp Ile Ala Lys Glu Met Lys Ser Lys |      |      |      |      |      |
|   | 1060 |      | 1065 |      | 1070 |
| Glu Asn Val Lys Gly Gly Glu Lys Thr Pro Val Ser Gly Ser Leu Lys |      |      |      |      |      |
|   | 1075 |      | 1080 |      | 1085 |
| Ser Pro Val Pro Arg Ser Asp Ile Pro Glu Pro Glu Arg Glu Gln Lys |      |      |      |      |      |
|   | 1090 |      | 1095 |      | 1100 |
| Arg Arg Lys Ile Asp Thr His Pro Ser Pro Ser His Ser Ser Thr Val |      |      |      |      |      |
| 1105  |      | 1110 |      | 1115 | 1120 |
| Lys Asp Ser Leu Ile Glu Leu Lys Glu Ser Ser Ala Lys Leu Tyr Ile |      |      |      |      |      |
|   | 1125 |      | 1130 |      | 1135 |
| Asn His Thr Pro Pro Pro Leu Ser Lys Ser Lys Glu Arg Glu Met Asp |      |      |      |      |      |
|   | 1140 |      | 1145 |      | 1150 |
| Lys Lys Asp Leu Asp Lys Ser Arg Glu Arg Ser Arg Glu Arg Glu Lys |      |      |      |      |      |
|   | 1155 |      | 1160 |      | 1165 |
| Lys Asp Glu Lys Asp Arg Lys Glu Arg Lys Arg Asp His Ser Asn Asn |      |      |      |      |      |
|   | 1170 |      | 1175 |      | 1180 |
| Asp Arg Glu Val Pro Pro Asp Leu Thr Lys Arg Arg Lys Glu Glu Asn |      |      |      |      |      |
| 1185  |      | 1190 |      | 1195 | 1200 |
| Gly Thr Met Gly Val Ser Lys His Lys Ser Glu Ser Pro Cys Glu Ser |      |      |      |      |      |
|   | 1205 |      | 1210 |      | 1215 |
| Pro Tyr Pro Asn Glu Lys Asp Lys Glu Lys Asn Lys Ser Lys Ser Ser |      |      |      |      |      |
|   | 1220 |      | 1225 |      | 1230 |
| Gly Lys Glu Lys Gly Ser Asp Ser Phe Lys Ser Glu Lys Met Asp Lys |      |      |      |      |      |
|   | 1235 |      | 1240 |      | 1245 |
| Ile Ser Ser Gly Gly Lys Lys Glu Ser Arg His Asp Lys Glu Lys Ile |      |      |      |      |      |
|   | 1250 |      | 1255 |      | 1260 |
| Glu Lys Lys Glu Lys Arg Asp Ser Ser Gly Gly Lys Glu Glu Lys Lys |      |      |      |      |      |
| 1265  |      | 1270 |      | 1275 | 1280 |
| His His Lys Ser Ser Asp Lys His Arg                             |      |      |      |      |      |
|   | 1285 |      | 1289 |      |      |

<210> 3094  
 <211> 296  
 <212> PRT  
 <213> Homo sapiens

<400> 3094

|   |     |   |     |    |     |
|---|-----|---|-----|----|-----|
| Ala Met Leu Gly Thr Arg Glu Pro Ser Arg Arg Gly Ala Gly Ala Val |     |   |     |    |     |
| 1   |     | 5 |     | 10 | 15  |
| Gln Ala Glu Val Ser Glu Arg Leu Ala Met Ala Gly Pro Gln Gln Gln |     |   |     |    |     |
|   | 20  |   | 25  |    | 30  |
| Pro Pro Tyr Leu His Leu Ala Glu Leu Thr Ala Ser Gln Phe Leu Glu |     |   |     |    |     |
|   | 35  |   | 40  |    | 45  |
| Ile Trp Lys His Phe Asp Ala Asp Gly Asn Gly Tyr Ile Glu Gly Lys |     |   |     |    |     |
|   | 50  |   | 55  |    | 60  |
| Glu Leu Glu Asn Phe Phe Gln Glu Leu Glu Lys Ala Arg Lys Gly Ser |     |   |     |    |     |
|   | 65  |   | 70  |    | 75  |
| Gly Met Met Ser Lys Ser Asp Asn Phe Gly Glu Lys Met Lys Glu Phe |     |   |     |    |     |
|   | 85  |   | 90  |    | 95  |
| Met Gln Lys Tyr Asp Lys Asn Ser Asp Gly Lys Ile Glu Met Ala Glu |     |   |     |    |     |
|   | 100 |   | 105 |    | 110 |
| Leu Ala Gln Ile Leu Pro Thr Glu Glu Asn Phe Leu Leu Cys Phe Arg |     |   |     |    |     |
|   | 115 |   | 120 |    | 125 |
| Gln His Val Gly Ser Ser Ala Glu Phe Met Glu Ala Trp Arg Lys Tyr |     |   |     |    |     |
|   | 130 |   | 135 |    | 140 |
| Asp Thr Asp Arg Ser Gly Tyr Ile Glu Ala Asn Glu Leu Lys Gly Phe |     |   |     |    |     |
|   | 145 |   | 150 |    | 155 |
| Leu Ser Asp Leu Leu Lys Lys Ala Asn Arg Pro Tyr Asp Glu Pro Lys |     |   |     |    |     |
|   | 165 |   | 170 |    | 175 |
| Leu Gln Glu Tyr Thr Gln Thr Ile Leu Arg Met Phe Asp Leu Asn Gly |     |   |     |    |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Asp | Gly | Lys | Leu | Gly | Leu | Ser | Glu | Met | Ser | Arg | Leu | Leu | Pro | Val | Gln |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Glu | Asn | Phe | Leu | Leu | Lys | Phe | Gln | Gly | Met | Lys | Leu | Thr | Ser | Glu | Glu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Phe | Asn | Ala | Ile | Phe | Thr | Phe | Tyr | Asp | Lys | Asp | Arg | Ser | Gly | Tyr | Ile |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Asp | Glu | His | Glu | Leu | Asp | Ala | Leu | Leu | Lys | Asp | Leu | Tyr | Glu | Lys | Asn |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Lys | Lys | Glu | Met | Asn | Ile | Gln | Gln | Leu | Thr | Asn | Tyr | Arg | Lys | Ser | Val |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Met | Ser | Leu | Ala | Glu | Ala | Gly | Lys | Leu | Tyr | Arg | Lys | Asp | Leu | Glu | Ile |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Val | Leu | Cys | Ser | Glu | Pro | Pro | Met |     |     |     |     |     |     |     |     |  |  |
|     | 290 |     |     |     |     | 295 | 296 |     |     |     |     |     |     |     |     |  |  |

<210> 3095  
 <211> 328  
 <212> PRT  
 <213> Homo sapiens

<400> 3095

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Arg | Pro | Thr | Gly | Arg | Pro | Gly | Ala | Leu | Gly | Ala | Pro | Ala | Ala | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Arg | Val | Gly | Met | Pro | Leu | His | Val | Lys | Trp | Pro | Phe | Pro | Ala | Val | Pro |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Pro | Leu | Thr | Trp | Thr | Leu | Ala | Ser | Ser | Val | Val | Met | Gly | Leu | Val | Gly |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Thr | Tyr | Ser | Cys | Phe | Trp | Thr | Lys | Tyr | Met | Asn | His | Leu | Thr | Val | His |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Asn | Arg | Glu | Val | Leu | Tyr | Glu | Leu | Ile | Glu | Lys | Arg | Gly | Pro | Ala | Thr |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Pro | Leu | Ile | Thr | Val | Ser | Asn | His | Gln | Ser | Cys | Met | Asp | Asp | Pro | His |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Leu | Trp | Gly | Ile | Leu | Lys | Leu | Arg | His | Ile | Trp | Asn | Leu | Lys | Leu | Met |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Arg | Trp | Thr | Pro | Ala | Ala | Ala | Asp | Ile | Cys | Phe | Thr | Lys | Glu | Leu | His |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ser | His | Phe | Phe | Ser | Leu | Gly | Lys | Cys | Val | Pro | Val | Cys | Arg | Gly | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Glu | Phe | Phe | Gln | Ala | Glu | Asn | Glu | Gly | Lys | Gly | Val | Leu | Asp | Thr | Gly |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Arg | His | Met | Pro | Gly | Ala | Gly | Lys | Arg | Arg | Glu | Lys | Gly | Asp | Gly | Val |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Tyr | Gln | Lys | Gly | Met | Asp | Phe | Ile | Leu | Glu | Lys | Leu | Asn | His | Gly | Asp |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Trp | Val | His | Ile | Phe | Pro | Glu | Gly | Lys | Val | Asn | Met | Ser | Ser | Glu | Phe |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Leu | Arg | Phe | Lys | Trp | Gly | Ile | Gly | Arg | Leu | Ile | Ala | Glu | Cys | His | Leu |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Asn | Pro | Ile | Ile | Leu | Pro | Leu | Trp | His | Val | Gly | Met | Asn | Asp | Val | Leu |  |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Pro | Asn | Ser | Pro | Pro | Tyr | Phe | Pro | Arg | Phe | Gly | Gln | Lys | Ile | Thr | Val |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Leu | Ile | Gly | Lys | Pro | Phe | Ser | Ala | Leu | Pro | Val | Leu | Glu | Arg | Leu | Arg |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ala | Glu | Asn | Lys | Ser | Ala | Val | Glu | Met | Arg | Lys | Ala | Leu | Thr | Asp | Phe |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ile | Gln | Glu | Glu | Phe | Gln | His | Leu | Lys | Thr | Gln | Ala | Glu | Gln | Leu | His |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |  |  |
| Asn | His | Leu | Gln | Ala | Trp | Glu | Ile | Gly | Leu | Ala | Cys | Cys | Leu | Leu | Asp |  |  |

320

<400> 3096

4774

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Arg | Leu | Gln | Ala | Ser | Lys | Glu | Arg | Gln | Thr | Ala | Leu | Asp | Asn | Glu | Lys |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Asp | Arg | Asp | Ser | His | Glu | Asp | Gly | Asp | Tyr | Tyr | Glu | Val | Asp | Ile | Asn |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Gly | Pro | Glu | Ile | Leu | Ala | Cys | Lys | Tyr | His | Val | Ala | Val | Ala | Glu | Ala |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Gly | Glu | Leu | Arg | Glu | Gln | Leu | Lys | Ala | Leu | Arg | Ser | Thr | His | Glu | Ala |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Arg | Glu | Ala | Gln | His | Ala | Glu | Glu | Lys | Gly | Arg | Tyr | Glu | Ala | Glu | Gly |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |  |  |
| Gln | Ala | Leu | Thr | Glu | Lys | Val | Ser | Leu | Leu | Glu | Lys | Ala | Ser | Arg | Gln |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Asp | Arg | Glu | Leu | Leu | Ala | Arg | Leu | Glu | Lys | Glu | Leu | Lys | Lys | Val | Ser |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Asp | Val | Ala | Gly | Glu | Thr | Gln | Gly | Ser | Leu | Ser | Val | Ala | Gln | Asp | Glu |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Leu | Val | Thr | Phe | Ser | Glu | Glu | Leu | Ala | Asn | Leu | Tyr | His | His | Val | Cys |  |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |  |
| Met | Cys | Asn | Asn | Glu | Thr | Pro | Asn | Arg | Val | Met | Leu | Asp | Tyr | Tyr | Arg |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Glu | Gly | Gln | Gly | Gly | Ala | Gly | Arg | Thr | Ser | Pro | Gly | Gly | Arg | Thr | Ser |  |  |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |  |  |
| Pro | Glu | Ala | Arg | Gly | Arg | Arg | Ser | Pro | Ile | Leu | Leu | Pro | Lys | Gly | Leu |  |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Leu | Ala | Pro | Glu | Ala | Gly | Arg | Ala | Asp | Gly | Gly | Thr | Gly | Asp | Ser | Ser |  |  |
|     | 610 |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |     |  |  |
| Pro | Ser | Pro | Gly | Ser | Ser | Leu | Pro | Ser | Pro | Leu | Ser | Asp | Pro | Arg | Arg |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Glu | Pro | Met | Asn | Ile | Tyr | Asn | Leu | Ile | Ala | Ile | Ile | Arg | Asp | Gln | Ile |  |  |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |  |  |
| Lys | His | Leu | Gln | Ala | Ala | Val | Asp | Arg | Thr | Thr | Glu | Leu | Ser | Arg | Gln |  |  |
|     |     | 660 |     |     |     |     | 665 |     |     |     |     |     | 670 |     |     |  |  |
| Arg | Ile | Ala | Ser | Gln | Glu | Leu | Gly | Pro | Ala | Val | Asp | Lys | Asp | Lys | Glu |  |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     | 685 |     |     |     |     |  |  |
| Ala | Leu | Met | Glu | Glu | Ile | Leu | Lys | Leu | Lys | Ser | Leu | Leu | Ser | Thr | Lys |  |  |
|     | 690 |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |     |  |  |
| Arg | Glu | Gln | Ile | Thr | Thr | Leu | Arg | Thr | Val | Leu | Lys | Ala | Asn | Lys | Gln |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Thr | Ala | Glu | Val | Ala | Leu | Ala | Asn | Leu | Lys | Ser | Lys | Tyr | Glu | Asn | Glu |  |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |  |  |
| Lys | Ala | Met | Val | Thr | Glu | Thr | Met | Met | Lys | Leu | Arg | Asn | Glu | Leu | Lys |  |  |
|     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |     |  |  |
| Ala | Leu | Lys | Glu | Asp | Ala | Ala | Thr | Phe | Ser | Ser | Leu | Arg | Ala | Met | Phe |  |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     | 765 |     |     |     |     |  |  |
| Ala | Thr | Arg | Cys | Asp | Glu | Tyr | Ile | Thr | Gln | Leu | Asp | Glu | Met | Gln | Arg |  |  |
|     | 770 |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |     |  |  |
| Gln | Leu | Ala | Ala | Ala | Glu | Asp | Glu | Lys | Lys | Thr | Leu | Asn | Ser | Leu | Leu |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Arg | Met | Ala | Ile | Gln | Gln | Lys | Leu | Ala | Leu | Thr | Gln | Arg | Leu | Glu | Leu |  |  |
|     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |     |  |  |
| Leu | Glu | Leu | Asp | His | Glu | Gln | Thr | Arg | Arg | Gly | Arg | Ala | Lys | Ala | Ala |  |  |
|     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |     |  |  |
| Pro | Lys | Thr | Lys | Pro | Ala | Thr | Pro | Ser | Val | Ser | His | Thr | Cys | Ala | Cys |  |  |
|     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |
| Ala | Ser | Asp | Arg | Ala | Glu | Gly | Thr | Gly | Leu | Ala | Asn | Gln | Val | Phe | Cys |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |
| Ser | Glu | Lys | His | Ser | Ile | Tyr | Cys | Asp |     |     |     |     |     |     |     |  |  |
| 865 |     |     |     |     | 870 |     |     | 873 |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3097

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3097

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Met Val Lys Val Val Pro Ala Thr Arg Gly Asn Leu Pro Arg Ser Gln
 1          5          10          15
Leu Thr Gly Thr His Gln His Cys Gln Pro Arg Glu Pro Lys Ile Thr
          20          25          30
Ala Ser Glu Arg Leu Arg Arg Arg Pro Arg Ala Thr Ala Arg Leu Arg
          35          40          45
Ala His Ala Ala Pro Pro Glu Pro Pro Leu Ala Val Phe Ala Pro Pro
          50          55          60
Ser Asp Arg Lys Glu Leu Leu Ala Leu Pro Val Ala Cys Asp Pro Val
65          70          75          80
Ile Ala Ser Val Met Ser Trp Val Gln Ala Ala Ser Leu Ile Gln Gly
          85          90          95
Pro Gly Asp Lys Gly Asp Val Phe Asp Glu Glu Ala Asp Glu Ser Leu
          100          105          110
Leu Ala Gln Arg Glu Trp Gln Ser Asn Met Gln Arg Arg Val Lys Glu
          115          120          125
Gly Tyr Arg Asp Gly Ile Asp Ala Gly Lys Ala Val Thr Leu Gln Gln
          130          135          140
Gly Phe Asn Gln Gly Tyr Lys Lys Gly Ala Glu Val Ile Leu Asn Tyr
145          150          155          160
Gly Arg Leu Arg Gly Thr Leu Ser Ala Leu Leu Ser Trp Cys His Leu
          165          170          175
His Asn Asn Asn Ser Thr Leu Ile Asn Lys Ile Asn Asn Leu Leu Asp
          180          185          190
Ala Val Gly Gln Cys Glu Glu Tyr Val Leu Lys His Leu Lys Ser Ile
          195          200          205
Thr Pro Pro Ser His Val Val Asp Leu Leu Asp Ser Ile Glu Asp Met
          210          215          220
Asp Leu Cys His Val Val Pro Ala Glu Lys Lys Ile Asp Glu Ala Lys
225          230          235          240
Asp Glu Arg Leu Cys Glu Asn Asn Ala Glu Phe Asn Lys Asn Cys Ser
          245          250          255
Lys Ser His Ser Gly Ile Asp Cys Ser Tyr Val Glu Cys Cys Arg Thr
          260          265          270
Gln Glu His Ala His Ser Gly Lys Pro Lys Pro His Met Asp Phe Gly
          275          280          285
Thr Asp Ser Gln Phe
          290          293

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&lt;210&gt; 3098

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3098

```

Gly Ala Ala Thr Leu Leu Arg Ser Ala Ser Ser Ala Ala Arg Lys Ala
 1          5          10          15
Ala Glu Ala Glu Gln Val Trp Leu His Leu His Arg Tyr Leu Ser Ala
          20          25          30
Asp Arg Arg Val Leu Gly Leu Arg Glu Trp Gly Arg Pro Ala Ser Glu
          35          40          45
Arg Glu Cys Ser Leu Cys Gln Arg Leu Lys Arg Glu Leu Asn Met Gly
          50          55          60
Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser Gln Cys
65          70          75          80
His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn Leu His

```



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gly | Leu | Phe | Gly | Arg | Lys | Thr | Gly | Gln | Ala | Pro | Gly | Tyr | Ser | Tyr | Thr |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ala | Ala | Asn | Lys | Asn | Lys | Gly | Ile | Ile | Trp | Gly | Glu | Asp | Thr | Leu | Met |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Tyr | Leu | Glu | Asn | Pro | Lys | Lys | Tyr | Ile | Pro | Gly | Thr | Lys | Met | Ile |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Phe | Val | Gly | Ile | Lys | Lys | Lys | Glu | Glu | Arg | Ala | Asp | Leu | Ile | Ala | Tyr |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Leu | Lys | Lys | Ala | Thr | Asn | Glu |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 165 |     | 167 |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3099

&lt;211&gt; 414

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3099

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Trp | Ala | Val | Gly | Gln | Ala | Arg | Ser | Phe | Pro | Ser | His | Pro | Arg | Met | Ser |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ser | Trp | Ile | Trp | Ser | Arg | Arg | Trp | Ser | Pro | Ser | Val | Ala | Leu | Arg | Val |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Thr | Cys | Thr | Ser | Thr | Ser | Ser | Gln | Arg | Trp | Thr | Val | Leu | Ala | Leu | Ser |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Lys | Pro | Gly | Ser | Gln | Gln | Gln | Val | Ser | Met | His | Thr | Pro | Ala | Pro | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Pro | Pro | Thr | Ala | Gly | His | Thr | Glu | Pro | Pro | Ser | Glu | Pro | Pro | Arg | Arg |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Arg | Val | Ala | Lys | Tyr | Arg | Ala | Lys | Phe | Asp | Pro | Arg | Val | Thr | Ala |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Lys | Tyr | Asp | Ile | Lys | Ala | Leu | Ile | Gly | Arg | Gly | Ser | Phe | Ser | Arg | Val |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Val | Arg | Val | Glu | His | Arg | Ala | Thr | Arg | Gln | Pro | Tyr | Ala | Ile | Lys | Met |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Glu | Thr | Lys | Tyr | Arg | Glu | Gly | Arg | Glu | Val | Cys | Glu | Ser | Glu | Leu |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | Val | Leu | Arg | Arg | Val | Arg | His | Ala | Asn | Ile | Ile | Gln | Leu | Val | Glu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Val | Phe | Glu | Thr | Gln | Glu | Arg | Val | Tyr | Met | Val | Met | Glu | Leu | Ala | Thr |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Gly | Gly | Glu | Leu | Phe | Asp | Arg | Ile | Ile | Ala | Lys | Gly | Ser | Phe | Thr | Glu |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Arg | Asp | Ala | Thr | Arg | Val | Leu | Gln | Met | Val | Leu | Asp | Gly | Val | Arg | Tyr |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Leu | His | Ala | Leu | Gly | Ile | Thr | His | Arg | Asp | Leu | Lys | Pro | Glu | Asn | Leu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu | Tyr | Tyr | His | Pro | Gly | Thr | Asp | Ser | Lys | Ile | Ile | Ile | Thr | Asp | Phe |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Leu | Ala | Ser | Ala | Arg | Lys | Lys | Gly | Asp | Asp | Cys | Leu | Met | Lys | Thr |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Thr | Cys | Gly | Thr | Pro | Glu | Tyr | Ile | Ala | Pro | Glu | Val | Leu | Val | Arg | Lys |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Pro | Tyr | Thr | Asn | Ser | Val | Asp | Met | Trp | Ala | Leu | Gly | Val | Ile | Ala | Tyr |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Ile | Leu | Leu | Ser | Gly | Thr | Met | Pro | Phe | Glu | Asp | Asp | Asn | Arg | Thr | Arg |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Leu | Tyr | Arg | Gln | Ile | Leu | Arg | Gly | Lys | Tyr | Ser | Tyr | Ser | Gly | Glu | Pro |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Trp | Pro | Ser | Val | Ser | Asn | Leu | Ala | Lys | Asp | Phe | Ile | Asp | Arg | Leu | Leu |  |  |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Thr | Val | Asp | Pro | Gly | Ala | Arg | Met | Thr | Ala | Leu | Gln | Ala | Leu | Arg | His |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Pro | Trp | Val | Val | Ser | Met | Ala | Ala | Ser | Ser | Ser | Met | Lys | Asn | Leu | His |  |  |
|     |     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |  |  |
| Arg | Ser | Ile | Ser | Gln | Asn | Leu | Leu | Lys | Arg | Ala | Ser | Ser | Arg | Cys | Gln |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Ser | Thr | Lys | Ser | Ala | Gln | Ser | Thr | Arg | Ser | Ser | Arg | Ser | Thr | Arg | Ser |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Asn | Lys | Ser | Arg | Arg | Val | Arg | Glu | Arg | Glu | Leu | Arg | Glu | Leu |     |     |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 414 |     |     |  |  |

&lt;210&gt; 3100

&lt;211&gt; 498

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3100

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Arg | Trp | Asn | Gly | Arg | Trp | Val | Gln | Val | Pro | Ala | Trp | Pro | Gly | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Gly | Cys | Gly | Thr | Asn | Ala | Ser | Gly | Glu | Arg | Gln | Arg | Gln | Leu | Pro | Arg |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ala | Trp | Arg | Pro | Val | Gly | Arg | Thr | Leu | Gly | Ser | Glu | Pro | Ile | Ala | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ala | Trp | Ser | Pro | Pro | Leu | Tyr | Leu | Phe | Pro | Ile | Pro | Leu | Pro | Ser | Trp |  |  |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ala | Val | Ser | Gln | Pro | Thr | Pro | Thr | Leu | Gly | Thr | Met | Phe | Ala | Asp | Leu |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Asp | Tyr | Asp | Ile | Glu | Glu | Asp | Lys | Leu | Gly | Ile | Pro | Thr | Val | Pro | Gly |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Lys | Val | Thr | Leu | Gln | Lys | Asp | Ala | Gln | Asn | Leu | Ile | Gly | Ile | Ser | Ile |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Gly | Gly | Ala | Gln | Tyr | Cys | Pro | Cys | Leu | Tyr | Ile | Val | Gln | Val | Phe |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Asp | Asn | Thr | Pro | Ala | Ala | Leu | Asp | Gly | Thr | Val | Ala | Ala | Gly | Asp | Glu |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ile | Thr | Gly | Val | Asn | Gly | Arg | Ser | Ile | Lys | Gly | Lys | Thr | Lys | Val | Glu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Val | Ala | Lys | Met | Ile | Gln | Glu | Val | Lys | Gly | Glu | Val | Thr | Ile | His | Tyr |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Asn | Lys | Leu | Gln | Ala | Asp | Pro | Lys | Gln | Gly | Met | Ser | Leu | Asp | Ile | Val |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Leu | Lys | Lys | Val | Lys | His | Arg | Leu | Val | Glu | Asn | Met | Ser | Ser | Gly | Thr |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ala | Asp | Ala | Leu | Gly | Leu | Ser | Arg | Ala | Ile | Leu | Cys | Asn | Asp | Gly | Leu |  |  |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Val | Lys | Arg | Leu | Glu | Glu | Leu | Glu | Arg | Thr | Ala | Glu | Leu | Tyr | Lys | Gly |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Met | Thr | Glu | His | Thr | Lys | Asn | Leu | Leu | Arg | Ala | Phe | Tyr | Glu | Leu | Ser |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Gln | Thr | His | Arg | Gly | Asn | Gly | Ile | Pro | Gln | Ser | Cys | Ala | Phe | Gly | Asp |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Val | Phe | Ser | Val | Ile | Gly | Val | Arg | Glu | Pro | Gln | Pro | Ala | Ala | Ser | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ala | Phe | Val | Lys | Phe | Ala | Asp | Ala | His | Arg | Ser | Ile | Glu | Lys | Phe | Gly |  |  |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ile | Arg | Leu | Leu | Lys | Thr | Ile | Lys | Pro | Met | Leu | Thr | Asp | Leu | Asn | Thr |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Tyr | Leu | Asn | Lys | Ala | Ile | Pro | Asp | Thr | Arg | Leu | Thr | Ile | Lys | Lys | Tyr |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Leu | Asp | Val | Lys | Phe | Glu | Tyr | Leu | Ser | Tyr | Cys | Leu | Lys | Val | Lys | Glu |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Met | Asp | Asp | Glu | Glu | Tyr | Ser | Cys | Ile | Ala | Leu | Gly | Glu | Pro | Leu | Tyr |  |  |

|   |     |     |
|---|-----|-----|
| 355   | 360 | 365 |
| Arg Val Ser Thr Gly Asn Tyr Glu Tyr Arg Leu Ile Leu Arg Cys Arg |     |     |
| 370   | 375 | 380 |
| Gln Glu Ala Arg Ala Arg Phe Ser Gln Met Arg Lys Asp Val Leu Glu |     |     |
| 385   | 390 | 395 |
| Lys Met Glu Leu Leu Asp Gln Lys His Val Gln Asp Ile Val Phe Gln |     | 400 |
|   | 405 | 410 |
| Leu Gln Arg Leu Val Ser Thr Met Ser Lys Tyr Tyr Asn Asp Cys Tyr |     | 415 |
|   | 420 | 425 |
| Ala Val Leu Arg Asp Ala Asp Val Phe Pro Ile Glu Val Asp Leu Ala |     | 430 |
|   | 435 | 440 |
| His Thr Thr Leu Ala Tyr Gly Leu Asn Gln Glu Glu Phe Thr Asp Gly |     | 445 |
|   | 450 | 455 |
| Glu Glu Glu Glu Glu Glu Glu Asp Thr Ala Ala Gly Glu Pro Ser Arg |     | 460 |
| 465   | 470 | 475 |
| Asp Thr Arg Gly Ala Ala Gly Pro Leu Asp Lys Gly Gly Ser Trp Cys |     | 480 |
|   | 485 | 490 |
| Asp Ser   |     | 495 |
| 498   |     |     |

<210> 3101  
 <211> 325  
 <212> PRT  
 <213> Homo sapiens

<400> 3101

|   |  |
|---|--|
| Gln Gly Met Asp Ser Lys Gln Gln Cys Val Lys Leu Asn Asp Gly His |  |
| 1 5 10 15   |  |
| Phe Met Pro Val Leu Gly Phe Gly Thr Tyr Ala Pro Pro Glu Val Pro |  |
| 20 25 30  |  |
| Arg Ser Lys Ala Leu Glu Val Thr Lys Leu Ala Ile Glu Ala Gly Phe |  |
| 35 40 45  |  |
| Arg His Ile Asp Ser Ala His Leu Tyr Asn Asn Glu Glu Gln Val Gly |  |
| 50 55 60  |  |
| Leu Ala Ile Arg Ser Lys Ile Ala Asp Gly Ser Val Lys Arg Glu Asp |  |
| 65 70 75 80   |  |
| Ile Phe Tyr Thr Ser Lys Leu Trp Ser Thr Phe His Arg Pro Glu Leu |  |
| 85 90 95  |  |
| Val Arg Pro Ala Leu Glu Asn Ser Leu Lys Lys Ala Gln Leu Asp Tyr |  |
| 100 105 110   |  |
| Val Asp Leu Tyr Leu Ile His Ser Pro Met Ser Leu Lys Pro Gly Glu |  |
| 115 120 125   |  |
| Glu Leu Ser Pro Thr Asp Glu Asn Gly Lys Val Ile Phe Asp Ile Val |  |
| 130 135 140   |  |
| Asp Leu Cys Thr Thr Trp Glu Ala Met Glu Lys Cys Lys Asp Ala Gly |  |
| 145 150 155 160   |  |
| Leu Ala Lys Ser Ile Gly Val Ser Asn Phe Asn Arg Arg Gln Leu Glu |  |
| 165 170 175   |  |
| Met Ile Leu Asn Lys Pro Gly Leu Lys Tyr Lys Pro Val Cys Asn Gln |  |
| 180 185 190   |  |
| Val Glu Cys His Pro Tyr Phe Asn Arg Ser Lys Leu Leu Asp Phe Cys |  |
| 195 200 205   |  |
| Lys Ser Lys Asp Ile Val Leu Val Ala Tyr Ser Ala Leu Gly Ser Gln |  |
| 210 215 220   |  |
| Arg Asp Lys Arg Trp Val Asp Pro Asn Ser Pro Val Leu Leu Glu Asp |  |
| 225 230 235 240   |  |
| Pro Val Leu Cys Ala Leu Ala Lys Lys His Lys Arg Thr Pro Ala Leu |  |
| 245 250 255   |  |
| Ile Ala Leu Arg Tyr Gln Leu Gln Arg Gly Val Val Val Leu Ala Lys |  |
| 260 265 270   |  |
| Ser Tyr Asn Glu Gln Arg Ile Arg Gln Asn Val Gln Val Phe Glu Phe |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 275 |     | 280 |     | 285 |     |     |     |     |     |     |     |     |     |     |
| Gln | Leu | Thr | Ala | Glu | Asp | Met | Lys | Ala | Ile | Asp | Gly | Leu | Asp | Arg | Asn |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Leu | His | Tyr | Phe | Asn | Ser | Asp | Ser | Phe | Ala | Ser | His | Pro | Asn | Tyr | Pro |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |
| Tyr | Ser | Asp | Glu | Tyr |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 325 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3102  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 3102

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gln | Pro | Arg | Pro | Pro | Pro | Cys | Gly | Arg | Arg | Pro | Leu | Pro | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser | Ala | Pro | Cys | Arg | Val | Arg | Leu | Gly | Arg | Ala | Pro | Arg | Gln | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Met | Ser | Met | Leu | Pro | Ser | Phe | Gly | Phe | Thr | Gln | Glu | Gln | Val | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Val | Cys | Glu | Val | Leu | Gln | Gln | Gly | Gly | Asn | Leu | Glu | Arg | Leu | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Arg | Phe | Leu | Trp | Ser | Leu | Pro | Ala | Cys | Asp | His | Leu | His | Lys | Asn | Glu |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Val | Leu | Lys | Ala | Lys | Ala | Val | Val | Ala | Phe | His | Arg | Gly | Asn | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Glu | Leu | Tyr | Lys | Ile | Leu | Glu | Ser | His | Gln | Phe | Ser | Pro | His | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Pro | Lys | Leu | Gln | Gln | Leu | Trp | Leu | Lys | Ala | His | Tyr | Val | Glu | Ala |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Lys | Leu | Arg | Gly | Arg | Pro | Leu | Gly | Ala | Val | Gly | Lys | Tyr | Arg | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Gln | Lys | Phe | Pro | Leu | Pro | Arg | Thr | Ile | Trp | Asp | Gly | Glu | Glu | Thr |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Tyr | Cys | Phe | Lys | Glu | Lys | Ser | Arg | Gly | Val | Leu | Arg | Glu | Trp | Tyr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | His | Asn | Pro | Tyr | Pro | Ser | Pro | Arg | Glu | Lys | Arg | Glu | Leu | Ala | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Thr | Gly | Leu | Thr | Thr | Thr | Gln | Val | Ser | Asn | Trp | Phe | Lys | Asn | Arg |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Gln | Arg | Asp | Arg | Ala | Ala | Glu | Ala | Lys | Glu | Arg | Glu | Asn | Thr | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Asn | Asn | Asn | Ser | Ser | Ser | Asn | Lys | Gln | Asn | Gln | Leu | Ser | Pro | Leu | Glu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Gly | Lys | Pro | Leu | Met | Ser | Ser | Ser | Glu | Glu | Glu | Phe | Ser | Pro | Pro |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Ser | Pro | Asp | Gln | Asn | Ser | Val | Leu | Leu | Leu | Gln | Gly | Asn | Met | Gly |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| His | Ala | Arg | Ser | Ser | Asn | Tyr | Ser | Leu | Pro | Gly | Leu | Thr | Ala | Ser | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Ser | His | Gly | Leu | Gln | Thr | His | Gln | His | Gln | Leu | Gln | Asp | Ser | Leu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Gly | Pro | Leu | Thr | Ser | Ser | Leu | Val | Asp | Leu | Gly | Ser |     |     |     |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     | 317 |     |     |     |

<210> 3103  
 <211> 490  
 <212> PRT  
 <213> Homo sapiens

<400> 3103

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Tyr | Ser | Trp | Gly | Cys | His | Ile | Met | Ala | Asp | Asn | Asp | Thr | Asp | 1   | 5   | 10  | 15  |
| Arg | Asn | Gln | Thr | Glu | Lys | Leu | Leu | Lys | Arg | Val | Arg | Glu | Leu | Glu | Gln | 20  | 25  | 30  |     |
| Glu | Val | Gln | Arg | Leu | Lys | Lys | Glu | Gln | Ala | Lys | Asn | Lys | Glu | Asp | Ser | 35  | 40  | 45  |     |
| Asn | Ile | Arg | Glu | Asn | Ser | Ser | Gly | Ala | Gly | Lys | Thr | Lys | Arg | Ala | Phe | 50  | 55  | 60  |     |
| Asp | Phe | Ser | Ala | His | Gly | Arg | Arg | His | Val | Ala | Leu | Arg | Ile | Ala | Tyr | 65  | 70  | 75  | 80  |
| Met | Gly | Trp | Gly | Tyr | Gln | Gly | Phe | Ala | Ser | Gln | Glu | Asn | Thr | Asn | Asn | 85  | 90  | 95  |     |
| Thr | Ile | Glu | Glu | Lys | Leu | Phe | Glu | Ala | Leu | Thr | Lys | Thr | Arg | Leu | Val | 100 | 105 | 110 |     |
| Glu | Ser | Arg | Gln | Thr | Ser | Asn | Tyr | His | Arg | Cys | Gly | Arg | Thr | Asp | Lys | 115 | 120 | 125 |     |
| Gly | Val | Ser | Ala | Phe | Gly | Gln | Val | Ile | Ser | Leu | Asp | Leu | Arg | Ser | Gln | 130 | 135 | 140 |     |
| Phe | Pro | Arg | Gly | Arg | Asp | Ser | Glu | Asp | Phe | Asn | Val | Lys | Glu | Glu | Ala | 145 | 150 | 155 | 160 |
| Asn | Ala | Ala | Ala | Glu | Glu | Ile | Arg | Tyr | Thr | His | Ile | Leu | Asn | Arg | Val | 165 | 170 | 175 |     |
| Leu | Pro | Pro | Asp | Ile | Arg | Ile | Leu | Ala | Trp | Ala | Pro | Val | Glu | Pro | Ser | 180 | 185 | 190 |     |
| Phe | Ser | Ala | Arg | Phe | Ser | Cys | Leu | Glu | Arg | Thr | Tyr | Arg | Tyr | Phe | Phe | 195 | 200 | 205 |     |
| Pro | Arg | Ala | Asp | Leu | Asp | Ile | Val | Thr | Met | Asp | Tyr | Ala | Ala | Gln | Lys | 210 | 215 | 220 |     |
| Tyr | Val | Gly | Thr | His | Asp | Phe | Arg | Asn | Leu | Cys | Lys | Met | Asp | Val | Ala | 225 | 230 | 235 | 240 |
| Asn | Gly | Val | Ile | Asn | Phe | Gln | Arg | Thr | Ile | Leu | Ser | Ala | Gln | Val | Gln | 245 | 250 | 255 |     |
| Leu | Val | Gly | Gln | Ser | Pro | Gly | Glu | Gly | Arg | Trp | Gln | Glu | Pro | Phe | Gln | 260 | 265 | 270 |     |
| Leu | Cys | Gln | Phe | Glu | Val | Thr | Gly | Gln | Ala | Phe | Leu | Tyr | His | Gln | Val | 275 | 280 | 285 |     |
| Arg | Cys | Met | Met | Ala | Ile | Leu | Phe | Leu | Ile | Gly | Gln | Gly | Met | Glu | Lys | 290 | 295 | 300 |     |
| Pro | Glu | Ile | Ile | Asp | Glu | Leu | Leu | Asn | Ile | Glu | Lys | Asn | Pro | Gln | Lys | 305 | 310 | 315 | 320 |
| Pro | Gln | Tyr | Ser | Met | Ala | Val | Glu | Phe | Pro | Leu | Val | Leu | Tyr | Asp | Cys | 325 | 330 | 335 |     |
| Lys | Phe | Glu | Asn | Val | Lys | Trp | Ile | Tyr | Asp | Gln | Glu | Ala | Gln | Glu | Phe | 340 | 345 | 350 |     |
| Asn | Ile | Thr | His | Leu | Gln | Gln | Leu | Trp | Ala | Asn | His | Ala | Val | Lys | Thr | 355 | 360 | 365 |     |
| His | Met | Leu | Tyr | Ser | Met | Leu | Gln | Gly | Leu | Asp | Thr | Val | Pro | Val | Pro | 370 | 375 | 380 |     |
| Cys | Gly | Ile | Gly | Pro | Lys | Met | Asp | Gly | Met | Thr | Glu | Trp | Gly | Asn | Val | 385 | 390 | 395 | 400 |
| Lys | Pro | Ser | Val | Ile | Lys | Gln | Thr | Ser | Ala | Phe | Val | Glu | Gly | Val | Lys | 405 | 410 | 415 |     |
| Met | Arg | Thr | Tyr | Lys | Pro | Leu | Met | Asp | Arg | Pro | Lys | Cys | Gln | Gly | Leu | 420 | 425 | 430 |     |
| Glu | Ser | Arg | Ile | Gln | His | Phe | Val | Arg | Arg | Gly | Arg | Ile | Glu | His | Pro | 435 | 440 | 445 |     |
| His | Leu | Phe | His | Glu | Glu | Glu | Thr | Lys | Ala | Lys | Arg | Asp | Cys | Asn | Asp | 450 | 455 | 460 |     |
| Thr | Leu | Glu | Glu | Asp | Asn | Thr | Asn | Leu | Glu | Thr | Pro | Thr | Lys | Arg | Val | 465 | 470 | 475 | 480 |
| Cys | Val | Asp | Thr | Glu | Ile | Lys | Ser | Ile | Ile |     |     |     |     |     |     |     |     |     |     |



485

490

<210> 3104  
 <211> 430  
 <212> PRT  
 <213> Homo sapiens

<400> 3104  
 Val Thr Leu Ile Lys Met Asn Ala Met Leu Glu Thr Pro Glu Leu Pro  
 1 5 10 15  
 Ala Val Phe Asp Gly Val Lys Leu Ala Ala Val Ala Ala Val Leu Tyr  
 20 25 30  
 Val Ile Val Arg Cys Leu Asn Leu Lys Ser Pro Thr Ala Pro Pro Asp  
 35 40 45  
 Leu Tyr Phe Gln Asp Ser Gly Leu Ser Arg Phe Leu Leu Lys Ser Cys  
 50 55 60  
 Pro Leu Leu Thr Lys Glu Tyr Ile Pro Pro Leu Ile Trp Gly Lys Ser  
 65 70 75 80  
 Gly His Ile Gln Thr Ala Leu Tyr Gly Lys Met Gly Arg Val Arg Ser  
 85 90 95  
 Pro His Pro Tyr Gly His Arg Lys Phe Ile Thr Met Ser Asp Gly Ala  
 100 105 110  
 Thr Ser Thr Phe Asp Leu Phe Glu Pro Leu Ala Glu His Cys Val Gly  
 115 120 125  
 Asp Asp Ile Thr Met Val Ile Cys Pro Gly Ile Ala Asn His Ser Glu  
 130 135 140  
 Lys Gln Tyr Ile Arg Thr Phe Val Asp Tyr Ala Gln Lys Asn Gly Tyr  
 145 150 155 160  
 Arg Cys Ala Val Leu Asn His Leu Gly Ala Leu Pro Asn Ile Glu Leu  
 165 170 175  
 Thr Ser Pro Arg Met Phe Thr Tyr Gly Cys Thr Trp Glu Phe Gly Ala  
 180 185 190  
 Met Val Asn Tyr Ile Lys Lys Thr Tyr Pro Leu Thr Gln Leu Val Val  
 195 200 205  
 Val Gly Phe Ser Leu Gly Gly Asn Ile Val Cys Lys Tyr Leu Gly Glu  
 210 215 220  
 Thr Gln Ala Asn Gln Glu Lys Val Leu Cys Cys Val Ser Val Cys Gln  
 225 230 235 240  
 Gly Tyr Ser Ala Leu Arg Ala Gln Glu Thr Phe Met Gln Trp Asp Gln  
 245 250 255  
 Cys Arg Arg Phe Tyr Asn Phe Leu Met Ala Asp Asn Met Lys Lys Ile  
 260 265 270  
 Ile Leu Ser His Arg Gln Ala Leu Phe Gly Asp His Val Lys Lys Pro  
 275 280 285  
 Gln Ser Leu Glu Asp Thr Asp Leu Ser Arg Leu Tyr Thr Ala Thr Ser  
 290 295 300  
 Leu Met Gln Ile Asp Asp Asn Val Met Arg Lys Phe His Gly Tyr Asn  
 305 310 315 320  
 Ser Leu Lys Glu Tyr Tyr Glu Glu Glu Ser Cys Met Arg Tyr Leu His  
 325 330 335  
 Arg Ile Tyr Val Pro Leu Met Leu Val Asn Ala Ala Asp Asp Pro Leu  
 340 345 350  
 Val His Glu Ser Leu Leu Thr Ile Pro Lys Ser Leu Ser Glu Lys Arg  
 355 360 365  
 Glu Asn Val Met Phe Val Leu Pro Leu His Gly Gly His Leu Gly Phe  
 370 375 380  
 Phe Glu Gly Ser Val Leu Phe Pro Glu Pro Leu Thr Trp Met Asp Lys  
 385 390 395 400  
 Leu Val Val Glu Tyr Ala Asn Ala Ile Cys Gln Trp Glu Arg Asn Lys  
 405 410 415  
 Leu Gln Cys Ser Asp Thr Glu Gln Val Glu Ala Asp Leu Glu

420

425

430

<210> 3105  
 <211> 417  
 <212> PRT  
 <213> Homo sapiens

<400> 3105  
 Met Gly Leu Leu Leu Met Ile Leu Ala Ser Ala Val Leu Gly Ser Phe  
   1                  5                  10                  15  
 Leu Thr Leu Leu Ala Gln Phe Phe Leu Leu Tyr Arg Arg Gln Pro Glu  
                   20                  25                  30  
 Pro Pro Ala Asp Glu Ala Ala Arg Ala Gly Glu Gly Phe Arg Tyr Ile  
                   35                  40                  45  
 Lys Pro Val Pro Gly Leu Leu Leu Arg Glu Tyr Leu Tyr Gly Gly Gly  
                   50                  55                  60  
 Arg Asp Glu Glu Pro Ser Gly Ala Ala Pro Glu Gly Gly Ala Thr Pro  
   65                  70                  75                  80  
 Thr Ala Ala Pro Glu Thr Pro Ala Pro Pro Thr Arg Glu Thr Cys Tyr  
                   85                  90                  95  
 Phe Leu Asn Ala Thr Ile Leu Phe Leu Phe Arg Glu Leu Arg Asp Thr  
                   100                  105                  110  
 Ala Leu Thr Arg Arg Trp Val Thr Lys Lys Ile Lys Val Glu Phe Glu  
                   115                  120                  125  
 Glu Leu Leu Gln Thr Lys Thr Ala Gly Arg Leu Leu Glu Gly Leu Ser  
   130                  135                  140  
 Leu Arg Asp Val Phe Leu Gly Glu Thr Val Pro Phe Ile Lys Thr Ile  
   145                  150                  155                  160  
 Arg Leu Val Arg Pro Val Val Pro Ser Ala Thr Gly Glu Pro Asp Gly  
                   165                  170                  175  
 Pro Glu Gly Glu Ala Leu Pro Ala Ala Cys Pro Glu Glu Leu Ala Phe  
                   180                  185                  190  
 Glu Ala Glu Val Glu Tyr Asn Gly Gly Phe His Leu Ala Ile Asp Val  
                   195                  200                  205  
 Asp Leu Val Phe Gly Lys Ser Ala Tyr Leu Phe Val Lys Leu Ser Arg  
   210                  215                  220  
 Val Val Gly Arg Leu Arg Leu Val Phe Thr Arg Val Pro Phe Thr His  
   225                  230                  235                  240  
 Trp Phe Phe Ser Phe Val Glu Asp Pro Leu Ile Asp Phe Glu Val Arg  
                   245                  250                  255  
 Ser Gln Phe Glu Gly Arg Pro Met Pro Gln Leu Thr Ser Ile Ile Val  
                   260                  265                  270  
 Asn Gln Leu Lys Lys Ile Ile Lys Arg Lys His Thr Leu Pro Asn Tyr  
                   275                  280                  285  
 Lys Ile Arg Phe Lys Pro Phe Phe Pro Tyr Gln Thr Leu Gln Gly Phe  
   290                  295                  300  
 Glu Glu Asp Glu Glu His Ile His Ile Gln Gln Trp Ala Leu Thr Glu  
   305                  310                  315                  320  
 Gly Arg Leu Lys Val Thr Leu Leu Glu Cys Ser Arg Leu Leu Ile Phe  
                   325                  330                  335  
 Gly Ser Tyr Asp Arg Glu Ala Asn Val His Cys Thr Leu Glu Leu Ser  
                   340                  345                  350  
 Ser Ser Val Trp Glu Glu Lys Gln Arg Ser Ser Ile Lys Thr Gly Thr  
                   355                  360                  365  
 Ile Ser Leu Thr Ala Val Phe Met Gly Trp His Arg Val Ser Glu Ala  
   370                  375                  380  
 Phe Pro Gly Leu Trp Tyr Lys Leu Leu Val Asp Leu Pro Phe Trp Gly  
   385                  390                  395                  400  
 Leu Glu Asp Gly Gly Pro Leu Leu Thr Val Pro Leu Arg Gln Cys Pro  
                   405                  410                  415  
 Gly

417

<210> 3106  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 3106  
 Met Ala Ala Ala Gly Ala Gly Arg Leu Arg Arg Val Ala Ser Ala Leu  
 1 5 10 15  
 Leu Leu Arg Ser Pro Arg Leu Pro Ala Arg Glu Leu Ser Ala Pro Ala  
 20 25 30  
 Arg Leu Tyr His Lys Lys Val Val Asp His Tyr Glu Asn Pro Arg Asn  
 35 40 45  
 Val Gly Ser Leu Asp Lys Thr Ser Lys Asn Val Gly Thr Gly Leu Val  
 50 55 60  
 Gly Ala Pro Ala Cys Gly Asp Val Met Lys Leu Gln Ile Gln Val Asp  
 65 70 75 80  
 Glu Lys Gly Lys Ile Val Asp Ala Arg Phe Lys Thr Phe Gly Cys Gly  
 85 90 95  
 Ser Ala Ile Ala Ser Ser Ser Leu Ala Thr Glu Trp Val Lys Gly Lys  
 100 105 110  
 Thr Val Glu Glu Ala Leu Thr Ile Lys Asn Thr Asp Ile Ala Lys Glu  
 115 120 125  
 Leu Cys Leu Pro Pro Val Lys Leu His Cys Ser Met Leu Ala Glu Asp  
 130 135 140  
 Ala Ile Lys Ala Ala Leu Ala Asp Tyr Lys Leu Lys Gln Glu Pro Lys  
 145 150 155 160  
 Lys Gly Glu Ala Glu Lys Lys  
 165 167

<210> 3107  
 <211> 372  
 <212> PRT  
 <213> Homo sapiens

<400> 3107  
 Thr Cys Gln Asp Val Arg Ser Val Phe Ser Leu Val Arg Ala Asn Ile  
 1 5 10 15  
 Phe Gly Glu Glu Ser Thr Ala Gly Ala Gly Trp His Arg Glu Glu Asp  
 20 25 30  
 Met Arg Lys Glu Leu Gln Leu Ser Leu Ser Val Thr Leu Leu Leu Val  
 35 40 45  
 Cys Gly Phe Leu Tyr Gln Phe Thr Leu Lys Ser Ser Cys Leu Phe Cys  
 50 55 60  
 Leu Pro Ser Phe Lys Ser His Gln Gly Leu Glu Ala Leu Leu Ser His  
 65 70 75 80  
 Arg Arg Gly Ile Val Phe Leu Glu Thr Ser Glu Arg Met Glu Pro Pro  
 85 90 95  
 His Leu Val Ser Cys Ser Val Glu Ser Ala Ala Lys Ile Tyr Pro Glu  
 100 105 110  
 Trp Pro Val Val Phe Phe Met Lys Gly Leu Thr Asp Ser Thr Pro Met  
 115 120 125  
 Pro Ser Asn Ser Thr Tyr Pro Ala Phe Ser Phe Leu Ser Ala Ile Asp  
 130 135 140  
 Asn Val Phe Leu Phe Pro Leu Asp Met Lys Arg Leu Leu Glu Asp Thr  
 145 150 155 160  
 Pro Leu Phe Ser Trp Tyr Asn Gln Ile Asn Ala Ser Ala Glu Arg Asn

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<210> 3108
<211> 257
<212> PRT
<213> Homo sapiens
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4785

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Cys Ser Ile Glu Trp Phe His Phe Ala Cys Val Gly Leu Thr Thr Lys |     |     |
| 225   | 230 | 235 |
| Pro Arg Gly Lys Trp Phe Cys Pro Arg Cys Ser Gln Glu Arg Lys Lys |     |     |
|   | 245 | 250 |
|   |     | 255 |
| Lys   |     |     |
| 257   |     |     |

<210> 3109  
 <211> 871  
 <212> PRT  
 <213> Homo sapiens

<400> 3109

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Ala | Val | Arg | Ala | Ala | Gly | Pro | Arg | Glu | Gly | Ala | Ser | Gln | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Ala | Gly | Thr | Val | Trp | Ala | Pro | Met | Thr | Gly | Cys | Pro | Cys | Gln | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Pro | Gly | Pro | Ser | Trp | Leu | Leu | Val | Asp | Thr | Leu | Glu | Pro | Glu | Thr |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |
| Ala | Tyr | Pro | Val | Gln | Arg | Pro | Gly | Pro | Glu | Gln | Ala | Gly | Asn | Gln | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gln | Met | Lys | Arg | Ala | Gln | Phe | Gly | Pro | His | Asp | Trp | Leu | Ser | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Val | Pro | Pro | Gly | Pro | Ser | Trp | Leu | Leu | Val | Asp | Thr | Leu | Glu | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Thr | Ala | Tyr | Gln | Phe | Ser | Val | Leu | Ala | Gln | Asn | Lys | Leu | Gly | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Ala | Phe | Ser | Glu | Val | Val | Thr | Val | Asn | Thr | Leu | Ala | Phe | Pro | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Thr | Pro | Glu | Pro | Leu | Val | Leu | Val | Thr | Pro | Pro | Arg | Cys | Leu | Ile |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Asn | Arg | Thr | Gln | Gln | Gly | Val | Leu | Leu | Ser | Trp | Leu | Pro | Pro | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | His | Ser | Phe | Pro | Ile | Asp | Arg | Tyr | Ile | Met | Glu | Phe | Arg | Val | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Arg | Trp | Glu | Leu | Leu | Asp | Asp | Gly | Ile | Pro | Gly | Thr | Glu | Gly | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Phe | Phe | Ala | Lys | Asp | Leu | Ser | Gln | Asp | Thr | Trp | Tyr | Glu | Phe | Arg | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Ala | Val | Met | Gln | Asp | Leu | Ile | Ser | Glu | Pro | Ser | Asn | Ile | Ala | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | Ser | Ser | Thr | Asp | Ile | Phe | Pro | Gln | Pro | Asp | Leu | Thr | Glu | Asp | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Ala | Arg | Pro | Val | Leu | Ala | Gly | Ile | Val | Ala | Thr | Ile | Cys | Phe | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Ala | Ala | Ile | Leu | Phe | Ser | Thr | Leu | Ala | Ala | Cys | Phe | Val | Asn | Lys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |
| Gln | Arg | Lys | Arg | Lys | Leu | Lys | Arg | Lys | Lys | Asp | Pro | Pro | Leu | Ser | Ile |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | His | Cys | Arg | Lys | Ser | Leu | Glu | Ser | Pro | Leu | Ser | Ser | Gly | Lys | Val |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Pro | Glu | Ser | Ile | Arg | Thr | Leu | Arg | Ala | Pro | Ser | Glu | Ser | Ser | Asp |
| 305 |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     |     | 320 |
| Asp | Gln | Gly | Gln | Pro | Ala | Ala | Lys | Arg | Met | Leu | Ser | Pro | Thr | Arg | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Glu | Leu | Ser | Leu | Tyr | Lys | Lys | Thr | Lys | Arg | Ala | Ile | Ser | Ser | Lys |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Lys | Tyr | Ser | Val | Ala | Lys | Ala | Glu | Ala | Glu | Ala | Glu | Ala | Thr | Thr | Pro |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ile | Glu | Leu | Ile | Ser | Arg | Gly | Pro | Asp | Gly | Arg | Phe | Val | Met | Asp | Pro |



|   |                             |                     |
|---|-----------------------------|---------------------|
| 370   | 375                         | 380                 |
| Ala Glu Met Glu Pro Ser   | Leu Lys Ser Arg Arg         | Ile Glu Gly Phe Pro |
| 385   | 390                         | 395                 |
| Phe Ala Glu Glu Thr Asp Met Tyr Pro                             | Glu Phe Arg Gln Ser Asp Glu | 400                 |
|   | 405                         | 410                 |
| Glu Asn Glu Asp Pro Leu Val Pro Thr Ser Val Ala Ala Leu Lys Ser |                             | 415                 |
|   | 420                         | 425                 |
| Gln Leu Thr Pro Leu Ser Ser Ser Gln Glu Ser Tyr Leu Pro Pro Pro |                             | 430                 |
|   | 435                         | 440                 |
| Ala Tyr Ser Pro Arg Phe Gln Pro Arg Gly Leu Glu Gly Pro Gly Gly |                             | 445                 |
|   | 450                         | 455                 |
| Leu Glu Gly Arg Leu Gln Ala Thr Gly Gln Ala Arg Pro Pro Ala Pro |                             | 460                 |
| 465   | 470                         | 475                 |
| Arg Pro Phe His His Gly Gln Tyr Tyr Gly Tyr Leu Ser Ser Ser Ser |                             | 480                 |
|   | 485                         | 490                 |
| Pro Gly Glu Val Glu Pro Pro Pro Phe Tyr Val Pro Glu Val Gly Ser |                             | 495                 |
|   | 500                         | 505                 |
| Pro Leu Ser Ser Val Met Ser Ser Pro Pro Leu Pro Thr Glu Gly Pro |                             | 510                 |
|   | 515                         | 520                 |
| Phe Gly His Pro Thr Ile Pro Glu Glu Asn Gly Glu Asn Ala Ser Asn |                             | 525                 |
|   | 530                         | 535                 |
| Ser Thr Leu Pro Leu Thr Gln Thr Pro Thr Gly Gly Arg Ser Pro Glu |                             | 540                 |
| 545   | 550                         | 555                 |
| Pro Trp Gly Arg Pro Glu Phe Pro Phe Gly Gly Leu Glu Thr Pro Ala |                             | 560                 |
|   | 565                         | 570                 |
| Met Met Phe Pro His Gln Leu Pro Pro Cys Asp Val Pro Glu Ser Leu |                             | 575                 |
|   | 580                         | 585                 |
| Gln Pro Lys Ala Gly Leu Pro Arg Gly Leu Pro Pro Thr Ser Leu Gln |                             | 590                 |
|   | 595                         | 600                 |
| Val Pro Ala Ala Tyr Pro Gly Ile Leu Ser Leu Glu Ala Pro Lys Gly |                             | 605                 |
|   | 610                         | 615                 |
| Trp Ala Gly Lys Ser Pro Gly Arg Gly Pro Val Pro Ala Pro Pro Ala |                             | 620                 |
| 625   | 630                         | 635                 |
| Ala Lys Trp Gln Asp Arg Pro Met Gln Pro Leu Val Ser Gln Gly Gln |                             | 640                 |
|   | 645                         | 650                 |
| Leu Arg His Thr Ser Gln Gly Met Gly Ile Pro Val Leu Pro Tyr Pro |                             | 655                 |
|   | 660                         | 665                 |
| Glu Pro Ala Glu Pro Gly Ala His Gly Gly Pro Ser Thr Phe Gly Leu |                             | 670                 |
|   | 675                         | 680                 |
| Asp Thr Arg Trp Tyr Glu Pro Gln Pro Arg Pro Arg Pro Ser Pro Arg |                             | 685                 |
|   | 690                         | 695                 |
| Gln Ala Arg Arg Ala Glu Pro Ser Leu His Gln Val Val Leu Gln Pro |                             | 700                 |
| 705   | 710                         | 715                 |
| Ser Arg Leu Ser Pro Leu Thr Gln Ser Pro Leu Ser Ser Arg Thr Gly |                             | 720                 |
|   | 725                         | 730                 |
| Ser Pro Glu Leu Ala Ala Arg Ala Arg Pro Arg Pro Gly Leu Leu Gln |                             | 735                 |
|   | 740                         | 745                 |
| Gln Ala Glu Met Ser Glu Ile Thr Leu Gln Pro Pro Ala Ala Val Ser |                             | 750                 |
|   | 755                         | 760                 |
| Phe Ser Arg Lys Ser Thr Pro Ser Thr Gly Ser Pro Ser Gln Ser Ser |                             | 765                 |
|   | 770                         | 775                 |
| Arg Ser Gly Ser Pro Ser Tyr Arg Pro Ala Met Gly Phe Thr Thr Leu |                             | 780                 |
| 785   | 790                         | 795                 |
| Ala Thr Gly Tyr Pro Ser Pro Pro Pro Gly Pro Ala Pro Ala Gly Pro |                             | 800                 |
|   | 805                         | 810                 |
| Gly Asp Ser Leu Asp Val Phe Gly Gln Thr Pro Ser Pro Arg Arg Thr |                             | 815                 |
|   | 820                         | 825                 |
| Gly Glu Glu Leu Leu Arg Pro Glu Thr Pro Pro Pro Thr Leu Pro Thr |                             | 830                 |
|   | 835                         | 840                 |
| Leu Gly Lys Leu Arg Arg Asp Arg Pro Ala Pro Ala Thr Ser Pro Pro |                             | 845                 |
|   | 850                         | 855                 |
| Glu Arg Ala Leu Ser Lys Leu                                     |                             | 860                 |
| 865   | 870                         | 871                 |

<210> 3110  
 <211> 279  
 <212> PRT  
 <213> Homo sapiens

<400> 3110  
 Ile Leu Gly Ser Arg Thr Met Ser Leu Thr Asn Thr Lys Thr Gly Phe  
 1 5 10 15  
 Ser Val Lys Asp Ile Leu Asp Leu Pro Asp Thr Asn Asp Glu Glu Gly  
 20 25 30  
 Ser Val Ala Glu Gly Pro Glu Glu Glu Asn Glu Gly Pro Glu Pro Ala  
 35 40 45  
 Lys Arg Ala Gly Pro Leu Gly Gln Gly Ala Leu Asp Ala Val Gln Ser  
 50 55 60  
 Leu Pro Leu Lys Asn Pro Phe Tyr Asp Ser Ser Asp Asn Pro Tyr Thr  
 65 70 75 80  
 Arg Trp Leu Ala Ser Thr Glu Gly Leu Gln Tyr Ser Leu His Gly Leu  
 85 90 95  
 Ala Ala Gly Ala Pro Pro Gln Asp Ser Ser Ser Lys Ser Pro Glu Pro  
 100 105 110  
 Ser Ala Asp Glu Ser Pro Asp Asn Asp Lys Glu Thr Pro Gly Gly Gly  
 115 120 125  
 Gly Asp Ala Gly Lys Lys Arg Lys Arg Arg Val Leu Phe Ser Lys Ala  
 130 135 140  
 Gln Thr Tyr Glu Leu Glu Arg Arg Phe Arg Gln Gln Arg Tyr Leu Ser  
 145 150 155 160  
 Ala Pro Glu Arg Glu His Leu Ala Ser Leu Ile Arg Leu Thr Pro Thr  
 165 170 175  
 Gln Val Lys Ile Trp Phe Gln Asn His Arg Tyr Lys Met Lys Arg Ala  
 180 185 190  
 Arg Ala Glu Lys Gly Met Glu Val Thr Pro Leu Pro Ser Pro Arg Arg  
 195 200 205  
 Val Ala Val Pro Val Leu Val Arg Asp Gly Lys Pro Cys His Ala Leu  
 210 215 220  
 Lys Ala Gln Asp Leu Ala Ala Ala Thr Phe Gln Ala Gly Ile Pro Phe  
 225 230 235 240  
 Ser Ala Tyr Ser Ala Gln Ser Leu Gln His Met Gln Tyr Asn Ala Gln  
 245 250 255  
 Tyr Ser Ser Ala Ser Thr Pro Gln Tyr Pro Thr Ala His Pro Leu Val  
 260 265 270  
 Gln Ala Gln Gln Trp Thr Trp  
 275 279

<210> 3111  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 3111  
 Pro Ser Val Ala Ser Leu Ala Arg Arg Phe Ser Gly Arg Ala Leu Trp  
 1 5 10 15  
 Pro Pro Ser His Ser Val Pro Gly Asn Arg Ala Leu Cys Pro Arg Leu  
 20 25 30  
 Leu His Gly Thr Thr Leu Pro Gly Gly Asn Gln Arg Glu Leu Ala Arg  
 35 40 45  
 Gln Lys Asn Met Lys Lys Gln Ser Asp Ser Val Lys Gly Lys Arg Arg  
 50 55 60  
 Asp Asp Gly Leu Ser Ala Ala Ala Arg Lys Gln Arg Asp Ser Thr Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Arg | Asp | Ser | Glu | Ile | Met | Gln | Gln | Lys | Gln | Lys | Lys | Ala | Asn | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |
| Lys | Glu | Glu | Pro | Lys |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 100 | 101 |     |     |     |     |     |     |     |     |     |     |

<210> 3112  
 <211> 695  
 <212> PRT  
 <213> Homo sapiens

<400> 3112

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Pro | Met | Leu | Gln | Ile | His | His | Phe | Ser | Phe | Lys | Leu | Ile | Phe | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Ile | His | Lys | Ser | Lys | Phe | Ile | Ser | Gln | Arg | Leu | Ser | Gln | Asn | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Thr | Arg | His | Thr | Asn | Leu | Ser | Asn | Thr | His | Tyr | Ser | Asp | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Val | Trp | Asn | Cys | Cys | Leu | Phe | Phe | Arg | Asn | Trp | Cys | Asn | Glu | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Leu | Lys | Ser | Cys | His | Phe | Ala | Gln | Glu | Arg | Glu | Gly | Ser | Gly | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Cys | Asn | Ser | Arg | Ala | Glu | Lys | Thr | Lys | Ser | Ala | Ala | Cys | Val | Ile |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Arg | Arg | Phe | Pro | Val | Ala | Pro | Leu | Ile | Pro | Tyr | Pro | Leu | Ile | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Glu | Asp | Ile | Asn | Ala | Ile | Glu | Met | Glu | Glu | Asp | Lys | Arg | Asp | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Ser | Arg | Glu | Ile | Ser | Lys | Phe | Arg | Asp | Thr | His | Lys | Lys | Leu | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Glu | Lys | Gly | Lys | Lys | Glu | Lys | Glu | Arg | Gln | Glu | Ile | Glu | Lys | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Arg | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Lys | Glu | Lys | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Glu | Arg | Glu | Arg | Glu | Arg | Asp | Arg | Asp | Arg | Asp | Arg | Thr | Lys | Glu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Asp | Arg | Asp | Arg | Asp | Arg | Glu | Arg | Asp | Arg | Asp | Arg | Asp | Arg | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Ser | Ser | Asp | Arg | Asn | Lys | Asp | Arg | Ser | Arg | Ser | Arg | Glu | Lys | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Asp | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu | Arg | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Glu | Arg | Glu | Arg | Glu | Lys | Asp | Lys | Lys | Arg | Asp | Arg | Glu | Glu | Asp |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Glu | Asp | Ala | Tyr | Glu | Arg | Arg | Lys | Leu | Glu | Arg | Lys | Leu | Arg | Glu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Lys | Glu | Ala | Ala | Tyr | Gln | Glu | Arg | Leu | Lys | Asn | Trp | Glu | Ile | Arg | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Arg | Lys | Lys | Thr | Arg | Glu | Tyr | Glu | Lys | Glu | Ala | Glu | Arg | Glu | Glu | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Arg | Arg | Arg | Glu | Met | Ala | Lys | Glu | Ala | Lys | Arg | Leu | Lys | Glu | Phe | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Asp | Tyr | Asp | Asp | Asp | Arg | Asp | Asp | Pro | Lys | Tyr | Tyr | Arg | Gly | Ser |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ala | Leu | Gln | Lys | Arg | Leu | Arg | Asp | Arg | Glu | Lys | Glu | Met | Glu | Ala | Asp |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Glu | Arg | Asp | Arg | Lys | Arg | Glu | Lys | Glu | Glu | Leu | Glu | Glu | Ile | Arg | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     | 390 |     | 395 |     | 400 |     |     |     |     |     |     |     |     |     |
| Arg | Leu | Leu | Ala | Glu | Gly | His | Pro | Asp | Pro | Asp | Ala | Glu | Leu | Gln | Arg |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Met | Glu | Gln | Glu | Ala | Glu | Arg | Arg | Arg | Gln | Pro | Gln | Ile | Lys | Gln | Glu |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Pro | Glu | Ser | Glu | Glu | Glu | Glu | Glu | Glu | Lys | Gln | Glu | Lys | Glu | Glu | Lys |
|     |     | 435 |     |     |     | 440 |     |     |     |     | 445 |     |     |     |     |
| Arg | Glu | Glu | Pro | Met | Glu | Glu | Glu | Glu | Pro | Glu | Gln | Lys | Pro | Cys |     |
|     | 450 |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |     |
| Leu | Lys | Pro | Thr | Leu | Arg | Pro | Ile | Ser | Ser | Ala | Pro | Ser | Val | Ser | Ser |
| 465 |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |     |
| Ala | Ser | Gly | Asn | Ala | Thr | Pro | Asn | Thr | Pro | Gly | Asp | Glu | Ser | Pro | Cys |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |
| Gly | Ile | Ile | Ile | Pro | His | Glu | Asn | Ser | Pro | Asp | Gln | Gln | Gln | Pro | Glu |
|     |     | 500 |     |     |     |     | 505 |     |     |     |     |     | 510 |     |     |
| Glu | His | Arg | Pro | Lys | Ile | Gly | Leu | Ser | Leu | Lys | Leu | Gly | Ala | Ser | Asn |
|     | 515 |     |     |     | 520 |     |     |     | 525 |     |     |     |     |     |     |
| Ser | Pro | Gly | Gln | Pro | Asn | Ser | Val | Lys | Arg | Lys | Lys | Leu | Pro | Val | Asp |
|     | 530 |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |     |
| Ser | Val | Phe | Asn | Lys | Phe | Glu | Asp | Glu | Asp | Ser | Asp | Asp | Val | Pro | Arg |
| 545 |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |     |
| Lys | Arg | Lys | Leu | Val | Pro | Leu | Asp | Tyr | Gly | Glu | Asp | Asp | Lys | Asn | Ala |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |
| Thr | Lys | Gly | Thr | Val | Asn | Thr | Glu | Glu | Lys | Arg | Lys | His | Ile | Lys | Ser |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     |     | 590 |     |     |
| Leu | Ile | Glu | Lys | Ile | Pro | Thr | Ala | Lys | Pro | Glu | Leu | Phe | Ala | Tyr | Pro |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Leu | Asp | Trp | Ser | Ile | Val | Asp | Ser | Ile | Leu | Met | Glu | Arg | Arg | Ile | Arg |
|     | 610 |     |     |     | 615 |     |     |     | 620 |     |     |     |     |     |     |
| Pro | Trp | Ile | Asn | Lys | Lys | Ile | Ile | Glu | Tyr | Ile | Gly | Glu | Glu | Glu | Ala |
| 625 |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |     |
| Thr | Leu | Val | Asp | Leu | Val | Cys | Ser | Lys | Val | Met | Ala | His | Ser | Pro | Pro |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     |     | 655 |     |
| Gln | Ser | Ile | Leu | Asp | Asp | Val | Ala | Met | Val | Leu | Asp | Glu | Glu | Ala | Glu |
|     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |     |
| Val | Phe | Ile | Val | Lys | Met | Trp | Arg | Leu | Leu | Ile | Tyr | Glu | Thr | Glu | Ala |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| Lys | Lys | Ile | Gly | Leu | Val | Lys |     |     |     |     |     |     |     |     |     |
|     | 690 |     |     |     |     | 695 |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3113

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3113

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Cys | Ala | Gly | Ile | Arg | Asp | Pro | Cys | Ser | Thr | Pro | Leu | Ala | Lys | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ala | Gly | Gly | Ala | Glu | Asn | Leu | Ser | Phe | Gly | Lys | Gln | Pro | Gly | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Thr | Asn | Ile | Leu | Lys | Met | Thr | Thr | Pro | Asn | Lys | Thr | Pro | Pro | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Asp | Pro | Lys | Gln | Leu | Glu | Arg | Thr | Gly | Thr | Val | Arg | Glu | Ile | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Gln | Ala | Val | Trp | Ser | Leu | Ser | Ser | Cys | Lys | Pro | Gly | Phe | Gly | Val |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Gln | Leu | Arg | Asp | Asp | Asn | Leu | Glu | Thr | Tyr | Trp | Gln | Ser | Asp | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser | Gln | Pro | His | Leu | Val | Asn | Ile | Gln | Phe | Arg | Arg | Lys | Thr | Thr | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Lys | Thr | Leu | Cys | Ile | Tyr | Ala | Asp | Tyr | Lys | Ser | Asp | Glu | Ser | Tyr | Thr |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Pro Ser Lys Ile Ser Val Arg Val Gly Asn Asn Phe His Asn Leu Gln |     |     |
| 130   | 135 | 140 |
| Glu Ile Arg Gln Leu Glu Leu Val Glu Pro Ser Gly Trp Ile His Val |     |     |
| 145   | 150 | 155 |
| Pro Leu Thr Asp Asn His Lys Lys Pro Thr Arg Thr Phe Met Ile Gln |     |     |
| 165   | 170 | 175 |
| Ile Ala Val Leu Ala Asn His Gln Asn Gly Arg Asp Thr His Met Arg |     |     |
| 180   | 185 | 190 |
| Gln Ile Lys Ile Tyr Thr Pro Val Glu Glu Ser Ser Ile Gly Lys Phe |     |     |
| 195   | 200 | 205 |
| Pro Arg Cys Thr Thr Ile Asp Phe Met Met Tyr Arg Ser Ile Arg     |     |     |
| 210   | 215 | 220 |
|   |     | 223 |

<210> 3114  
 <211> 537  
 <212> PRT  
 <213> Homo sapiens

<400> 3114

|   |  |
|---|--|
| Met Thr Ser Lys Glu Glu Ser Arg Arg Gln Gln Pro Thr Ala Gly Pro |  |
| 1 5 10 15   |  |
| Ala Gly Gln Gly Lys Leu Pro Ser Pro Ser Glu Pro Gln Leu Pro Thr |  |
| 20 25 30  |  |
| Pro Pro Thr Arg Ser Leu His His Phe Arg Arg Pro Leu Ser Pro Ser |  |
| 35 40 45  |  |
| Arg Glu Ala Gln Ala His Ile Ala Pro Ser Ser Glu Leu His Leu Pro |  |
| 50 55 60  |  |
| Gln Ser Gln Ser Ala Gly Pro Pro Pro Leu Gly Ala Gly Thr Glu Val |  |
| 65 70 75 80   |  |
| Glu Leu Val Val Pro Gly Arg Asp Glu Gly Ser Arg Gly Ala Leu Pro |  |
| 85 90 95  |  |
| Gly Ser Ser Gly Val Lys Phe Val Trp Arg Lys Ile Val Arg Phe Pro |  |
| 100 105 110   |  |
| Val Ser Asp Gln Val Arg Thr Leu Ser Ile Ser Arg Leu Met Arg Arg |  |
| 115 120 125   |  |
| Leu Leu Glu Met Met Gln Thr Leu Val Gln Phe Ile Ile Gly Trp Arg |  |
| 130 135 140   |  |
| Ser Leu Leu Gly Arg Thr Leu Gly Thr Ile Met Asn Thr Met Tyr Val |  |
| 145 150 155 160   |  |
| Met Met Ala Gln Ile Leu Arg Ser His Leu Ile Lys Ala Thr Val Ile |  |
| 165 170 175   |  |
| Pro Asn Arg Val Lys Met Leu Pro Tyr Phe Gly Ile Ile Arg Asn Arg |  |
| 180 185 190   |  |
| Met Met Ser Thr His Lys Ser Lys Lys Lys Ile Arg Glu Tyr Tyr Arg |  |
| 195 200 205   |  |
| Leu Leu Asn Val Glu Glu Gly Cys Ser Ala Asp Glu Val Arg Glu Ser |  |
| 210 215 220   |  |
| Phe His Lys Leu Ala Lys Gln Tyr His Pro Asp Ser Gly Ser Asn Thr |  |
| 225 230 235 240   |  |
| Ala Asp Ser Ala Thr Phe Ile Arg Ile Glu Lys Ala Tyr Arg Lys Val |  |
| 245 250 255   |  |
| Leu Ser His Val Ile Glu Gln Thr Asn Ala Ser Gln Ser Lys Gly Glu |  |
| 260 265 270   |  |
| Glu Glu Glu Asp Val Glu Lys Phe Lys Tyr Lys Thr Pro Gln His Arg |  |
| 275 280 285   |  |
| His Tyr Leu Ser Phe Glu Gly Ile Gly Phe Gly Thr Pro Thr Gln Arg |  |
| 290 295 300   |  |
| Glu Lys His Tyr Arg Gln Phe Arg Ala Asp Arg Ala Ala Glu Gln Val |  |
| 305 310 315 320   |  |
| Met Glu Tyr Gln Lys Gln Lys Leu Gln Ser Gln Tyr Phe Pro Asp Ser |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |     |     |  |  |
| Val | Ile | Val | Lys | Asn | Ile | Arg | Gln | Ser | Lys | Gln | Gln | Lys | Ile | Thr | Gln |  |  |
|     |     |     | 340 |     |     |     |     |     | 345 |     |     |     | 350 |     |     |  |  |
| Ala | Ile | Glu | Arg | Leu | Val | Glu | Asp | Leu | Ile | Gln | Glu | Ser | Met | Ala | Lys |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Gly | Asp | Phe | Asp | Asn | Leu | Ser | Gly | Lys | Gly | Lys | Pro | Leu | Lys | Lys | Phe |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Ser | Asp | Cys | Ser | Tyr | Ile | Asp | Pro | Met | Thr | His | Asn | Leu | Asn | Arg | Ile |  |  |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Leu | Ile | Asp | Asn | Gly | Tyr | Gln | Pro | Glu | Trp | Ile | Leu | Lys | Gln | Lys | Glu |  |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     |     | 415 |  |  |
| Ile | Ser | Asp | Thr | Ile | Glu | Gln | Leu | Arg | Glu | Ala | Ile | Leu | Val | Ser | Arg |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Lys | Lys | Leu | Gly | Asn | Pro | Met | Thr | Pro | Thr | Glu | Lys | Lys | Gln | Trp | Asn |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| His | Val | Cys | Glu | Gln | Phe | Gln | Glu | Asn | Ile | Arg | Lys | Leu | Asn | Lys | Arg |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Ile | Asn | Asp | Phe | Asn | Leu | Ile | Val | Pro | Ile | Leu | Thr | Arg | Gln | Lys | Val |  |  |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| His | Phe | Asp | Ala | Gln | Lys | Glu | Ile | Val | Arg | Ala | Gln | Lys | Ile | Tyr | Glu |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Thr | Leu | Ile | Lys | Thr | Lys | Glu | Val | Thr | Asp | Arg | Asn | Pro | Asn | Asn | Leu |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Asp | Gln | Gly | Glu | Gly | Glu | Lys | Thr | Pro | Glu | Ile | Lys | Lys | Gly | Phe | Leu |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Asn | Leu | Met | Asp | Leu | Val | Glu | Ile | Tyr |     |     |     |     |     |     |     |  |  |
|     | 530 |     |     |     |     | 535 |     | 537 |     |     |     |     |     |     |     |  |  |

<210> 3115  
 <211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 3115

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Arg | His | Arg | Cys | Gly | Cys | Leu | Ser | Tyr | Cys | Arg | Ser | Arg | Arg | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ile | Arg | Arg | Val | Glu | Pro | Leu | Arg | Arg | Ala | Arg | Ala | Arg | Val | Gly | Pro |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Phe | Arg | Pro | Leu | Cys | Arg | Met | Glu | Ile | Ile | Arg | Ser | Asn | Phe | Lys |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ser | Asn | Leu | His | Lys | Val | Tyr | Gln | Ala | Ile | Glu | Glu | Ala | Asp | Phe | Phe |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ala | Ile | Asp | Gly | Glu | Phe | Ser | Gly | Ile | Ser | Asp | Gly | Pro | Ser | Val | Ser |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Leu | Thr | Asn | Gly | Phe | Asp | Thr | Pro | Glu | Glu | Arg | Tyr | Gln | Lys | Leu |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Lys | Lys | His | Ser | Met | Asp | Phe | Leu | Leu | Phe | Gln | Phe | Gly | Leu | Cys | Thr |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Phe | Lys | Tyr | Asp | Tyr | Thr | Asp | Ser | Lys | Tyr | Ile | Thr | Lys | Ser | Phe | Asn |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Phe | Tyr | Val | Phe | Pro | Lys | Pro | Phe | Asn | Arg | Ser | Ser | Pro | Asp | Val | Lys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Phe | Val | Cys | Gln | Ser | Ser | Ser | Ile | Asp | Phe | Leu | Ala | Ser | Gln | Gly | Phe |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Asp | Phe | Asn | Lys | Gly | Phe | Arg | Lys | Gly | Ile | Pro | Tyr | Leu | Asn | Gln | Glu |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Glu | Glu | Arg | Gln | Leu | Arg | Glu | Gln | Tyr | Asp | Glu | Lys | Arg | Ser | Gln | Ala |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Asn | Gly | Ala | Gly | Ala | Leu | Ser | Tyr | Val | Ser | Pro | Asn | Thr | Ser | Lys | Cys |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Pro | Val | Thr | Ile | Pro | Glu | Asp | Gln | Lys | Lys | Phe | Ile | Asp | Gln | Val | Val |  |  |

|   |   |     |
|---|---|-----|
| 210   | 215                                     | 220 |
| Glu Lys Ile Glu Asp Leu   | Leu Gln Ser Glu Glu Asn Lys Asn Leu Asp |     |
| 225   | 230                                     | 235 |
| Leu Glu Pro Cys Thr Gly Phe Gln Arg Lys                         | Leu Ile Tyr Gln Thr Leu                 | 240 |
| 245   | 250                                     | 255 |
| Ser Trp Lys Tyr Pro Lys Gly Ile His Val Glu Thr Leu Glu Thr Glu |   |     |
| 260   | 265                                     | 270 |
| Lys Lys Glu Arg Tyr Ile Val Ile Ser Lys Val Asp Glu Glu Glu Arg |   |     |
| 275   | 280                                     | 285 |
| Lys Arg Arg Glu Gln Gln Lys His Ala Lys Glu Gln Glu Glu Leu Asn |   |     |
| 290   | 295                                     | 300 |
| Asp Ala Val Gly Phe Ser Arg Val Ile His Ala Ile Ala Asn Ser Gly |   |     |
| 305   | 310                                     | 315 |
| Lys Leu Val Ile Gly His Asn Met Leu Leu Asp Val Met His Thr Val |   |     |
| 325   | 330                                     | 335 |
| His Gln Phe Tyr Cys Pro Leu Pro Ala Asp Leu Ser Glu Phe Lys Glu |   |     |
| 340   | 345                                     | 350 |
| Met Thr Thr Cys Val Phe Pro Arg Leu Leu Asp Thr Lys Leu Met Ala |   |     |
| 355   | 360                                     | 365 |
| Ser Thr Gln Pro Phe Lys Asp Ile Ile Asn Asn Thr Ser Leu Ala Glu |   |     |
| 370   | 375                                     | 380 |
| Leu Glu Lys Arg Leu Lys Glu Thr Pro Phe Asn Pro Pro Lys Val Glu |   |     |
| 385   | 390                                     | 395 |
| Ser Ala Glu Gly Phe Pro Ser Tyr Asp Thr Ala Ser Glu Gln Leu His |   |     |
| 405   | 410                                     | 415 |
| Glu Ala Gly Tyr Asp Ala Tyr Ile Thr Gly Leu Cys Phe Ile Ser Met |   |     |
| 420   | 425                                     | 430 |
| Ala Asn Tyr Leu Gly Ser Phe Leu Ser Pro Pro Lys Ile His Val Ser |   |     |
| 435   | 440                                     | 445 |
| Ala Arg Ser Lys Leu Ile Glu Pro Phe Phe Asn Lys Leu Phe Leu Met |   |     |
| 450   | 455                                     | 460 |
| Arg Val Met Asp Ile Pro Tyr Leu Asn Leu Glu Gly Pro Asp Leu Gln |   |     |
| 465   | 470                                     | 475 |
| Pro Lys Arg Asp His Val Leu His Val Thr Phe Pro Lys Glu Trp Lys |   |     |
| 485   | 490                                     | 495 |
| Thr Ser Asp Leu Tyr Gln Leu Phe Ser Ala Phe Gly Asn Ile Gln Ile |   |     |
| 500   | 505                                     | 510 |
| Ser Trp Ile Asp Asp Thr Ser Ala Phe Val Ser Leu Ser Gln Pro Glu |   |     |
| 515   | 520                                     | 525 |
| Gln Val Lys Ile Ala Val Asn Thr Ser Lys Tyr Ala Glu Ser Tyr Arg |   |     |
| 530   | 535                                     | 540 |
| Ile Gln Thr Tyr Ala Glu Tyr Met Gly Arg Lys Gln Glu Glu Lys Gln |   |     |
| 545   | 550                                     | 555 |
| Ile Lys Arg Lys Trp Thr Glu Asp Ser Trp Lys Glu Ala Asp Ser Lys |   |     |
| 565   | 570                                     | 575 |
| Arg Leu Asn Pro Gln Cys Ile Pro Tyr Thr Leu Gln Asn His Tyr Tyr |   |     |
| 580   | 585                                     | 590 |
| Arg Asn Asn Ser Phe Thr Ala Pro Ser Thr Val Gly Lys Arg Asn Leu |   |     |
| 595   | 600                                     | 605 |
| Ser Pro Ser Gln Glu Glu Ala Gly Leu Glu Asp Gly Val Ser Gly Glu |   |     |
| 610   | 615                                     | 620 |
| Ile Ser Asp Thr Glu Leu Glu Gln Thr Asp Ser Cys Ala Glu Pro Leu |   |     |
| 625   | 630                                     | 635 |
| Ser Glu Gly Arg Lys Lys Ala Lys Lys Leu Lys Arg Met Lys Lys Glu |   |     |
| 645   | 650                                     | 655 |
| Leu Ser Pro Ala Gly Ser Ile Ser Lys Asn Ser Pro Ala Thr Leu Phe |   |     |
| 660   | 665                                     | 670 |
| Glu Val Pro Asp Thr Trp   |   |     |
| 675   | 678                                     |     |

&lt;210&gt; 3116

&lt;211&gt; 479

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3116

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Glu | Ala | Pro | Met | Ala | Leu | Ala | Val | Ala | Pro | Trp | Gly | Arg | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Glu | Glu | Ala | Arg | Ala | Leu | Gly | Arg | Ala | Val | Arg | Met | Leu | Gln | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Glu | Glu | Gln | Cys | Val | Asp | Pro | Arg | Leu | Ser | Val | Ser | Pro | Pro | Ser |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Leu | Arg | Asp | Leu | Leu | Pro | Arg | Thr | Ala | Gln | Leu | Leu | Arg | Glu | Val | Ala |
|     |     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| His | Ser | Arg | Arg | Ala | Ala | Gly | Gly | Gly | Gly | Pro | Gly | Gly | Pro | Gly | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |
| Ser | Gly | Asp | Phe | Leu | Leu | Ile | Tyr | Leu | Ala | Asn | Leu | Glu | Ala | Lys | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Gln | Val | Ala | Ala | Leu | Leu | Pro | Pro | Arg | Gly | Arg | Arg | Ser | Ala | Asn |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Asp | Glu | Leu | Phe | Arg | Ala | Gly | Ser | Arg | Leu | Arg | Arg | Gln | Leu | Ala | Lys |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Ala | Ile | Ile | Phe | Ser | His | Met | His | Ala | Glu | Leu | His | Ala | Leu | Phe |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Pro | Gly | Gly | Lys | Tyr | Cys | Gly | His | Met | Tyr | Gln | Leu | Thr | Lys | Ala | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | His | Thr | Phe | Trp | Arg | Glu | Ser | Cys | Gly | Ala | Arg | Cys | Val | Leu | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Trp | Ala | Glu | Phe | Glu | Ser | Leu | Leu | Gly | Thr | Cys | His | Pro | Val | Glu | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Cys | Thr | Ala | Leu | Ala | Leu | Arg | Thr | Thr | Ile | Asp | Leu | Thr | Cys | Ser |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | His | Val | Ser | Ile | Phe | Glu | Phe | Asp | Val | Phe | Thr | Arg | Leu | Phe | Gln |
|     |     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |
| Pro | Trp | Pro | Thr | Leu | Leu | Lys | Asn | Trp | Gln | Leu | Leu | Ala | Val | Asn | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Gly | Tyr | Met | Ala | Phe | Leu | Thr | Tyr | Asp | Glu | Val | Gln | Glu | Arg | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Ala | Cys | Arg | Asp | Lys | Pro | Gly | Ser | Tyr | Ile | Phe | Arg | Pro | Ser | Cys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Arg | Leu | Gly | Gln | Trp | Ala | Ile | Gly | Tyr | Val | Ser | Ser | Asp | Gly | Ser |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Ile | Leu | Gln | Thr | Ile | Pro | Ala | Asn | Lys | Pro | Leu | Ser | Gln | Val | Leu | Leu |
|     |     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |
| Glu | Gly | Gln | Lys | Asp | Gly | Phe | Tyr | Leu | Tyr | Pro | Asp | Gly | Lys | Thr | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asn | Pro | Asp | Leu | Thr | Glu | Leu | Gly | Gln | Ala | Glu | Pro | Gln | Gln | Arg | Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| His | Val | Ser | Glu | Glu | Gln | Leu | Gln | Leu | Tyr | Trp | Ala | Met | Asp | Ser | Thr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Phe | Glu | Leu | Cys | Lys | Ile | Cys | Ala | Glu | Ser | Asn | Lys | Asp | Val | Lys | Ile |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Glu | Pro | Cys | Gly | His | Leu | Leu | Cys | Ser | Cys | Cys | Leu | Ala | Ala | Trp | Gln |
|     |     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |
| His | Ser | Asp | Ser | Gln | Thr | Cys | Pro | Phe | Cys | Arg | Cys | Glu | Ile | Lys | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Trp | Glu | Ala | Val | Ser | Ile | Tyr | Gln | Phe | His | Gly | Gln | Ala | Thr | Ala | Glu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asp | Ser | Gly | Asn | Ser | Ser | Asp | Gln | Glu | Gly | Arg | Glu | Leu | Glu | Leu | Gly |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gln | Val | Pro | Leu | Ser | Ala | Pro | Pro | Leu | Pro | Pro | Arg | Pro | Asp | Leu | Pro |
|     |     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |
| Pro | Arg | Lys | Pro | Arg | Asn | Ala | Gln | Pro | Lys | Val | Arg | Leu | Leu | Lys | Gly |
|     |     |     | 450 |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Asn | Ser | Pro | Pro | Ala | Ala | Leu | Gly | Pro | Gln | Asp | Pro | Ala | Pro | Ala |     |

465

470

475

479

<210> 3117  
 <211> 1084  
 <212> PRT  
 <213> Homo sapiens

<400> 3117  
 Glu Arg His Ser Ser Pro Leu Leu Gln His Ile Leu Thr His Ala Leu  
 1 5 10 15  
 Met Arg Asn Lys Lys His Ser Asn Asn Trp Leu Ala Gln His Trp Phe  
 20 25 30  
 Gln Ser Ser Ile Ile Leu Cys Phe Ser Pro Val Gly Arg Thr Leu Arg  
 35 40 45  
 Val Arg Ala Arg Lys Phe Pro Ala Ile Val Asn Cys Thr Ala Ile Asp  
 50 55 60  
 Trp Phe His Ala Trp Pro Gln Glu Ala Leu Val Ser Val Ser Arg Arg  
 65 70 75 80  
 Phe Ile Glu Glu Thr Lys Gly Ile Glu Pro Val His Lys Asp Ser Ile  
 85 90 95  
 Ser Leu Phe Met Ala His Val His Thr Thr Val Asn Glu Met Ser Thr  
 100 105 110  
 Arg Tyr Tyr Gln Asn Glu Arg Arg His Asn Tyr Thr Thr Pro Lys Ser  
 115 120 125  
 Phe Leu Glu Gln Ile Ser Leu Phe Lys Asn Leu Leu Lys Lys Lys Gln  
 130 135 140  
 Asn Glu Val Ser Glu Lys Lys Glu Arg Leu Val Asn Gly Ile Gln Lys  
 145 150 155 160  
 Leu Lys Thr Thr Ala Ser Gln Val Gly Asp Leu Lys Ala Arg Leu Ala  
 165 170 175  
 Ser Gln Glu Ala Glu Leu Gln Leu Arg Asn His Asp Ala Glu Ala Leu  
 180 185 190  
 Ile Thr Lys Ile Gly Leu Gln Thr Glu Lys Val Ser Arg Glu Lys Thr  
 195 200 205  
 Ile Ala Asp Ala Glu Glu Arg Lys Val Thr Ala Ile Gln Thr Glu Val  
 210 215 220  
 Phe Gln Lys Gln Arg Glu Cys Glu Ala Asp Leu Leu Lys Ala Glu Pro  
 225 230 235 240  
 Ala Leu Val Ala Ala Thr Ala Ala Leu Asn Thr Leu Asn Arg Val Asn  
 245 250 255  
 Leu Ser Glu Leu Lys Ala Phe Pro Asn Pro Pro Ile Ala Val Thr Asn  
 260 265 270  
 Val Thr Ala Ala Val Met Val Leu Leu Ala Pro Arg Gly Arg Val Pro  
 275 280 285  
 Lys Asp Arg Ser Trp Lys Ala Ala Lys Val Phe Met Gly Lys Val Asp  
 290 295 300  
 Asp Phe Leu Gln Ala Leu Ile Asn Tyr Asp Lys Glu His Ile Pro Glu  
 305 310 315 320  
 Asn Cys Leu Lys Val Val Asn Glu His Tyr Leu Lys Asp Pro Glu Phe  
 325 330 335  
 Asn Pro Asn Leu Ile Arg Thr Lys Ser Phe Ala Ala Ala Gly Leu Cys  
 340 345 350  
 Ala Trp Val Ile Asn Ile Ile Lys Phe Tyr Glu Val Tyr Cys Asp Val  
 355 360 365  
 Glu Pro Lys Arg Gln Ala Leu Ala Gln Ala Asn Leu Glu Leu Ala Ala  
 370 375 380  
 Ala Thr Glu Lys Leu Glu Ala Ile Arg Lys Lys Leu Val Val Ser Ala  
 385 390 395 400  
 Asn Tyr Asp Ile Glu Lys Ser Glu Lys Ile Arg Trp Gly Gln Ser Ile  
 405 410 415  
 Lys Ser Phe Glu Ala Gln Glu Lys Thr Leu Cys Gly Asp Val Leu Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Thr | Ala | Ala | Phe | Val | Ser | Tyr | Val | Gly | Pro | Phe | Thr | Arg | Gln | Tyr | Arg |
|     |     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |
| Gln | Glu | Leu | Val | His | Cys | Lys | Trp | Val | Pro | Phe | Leu | Gln | Gln | Lys | Val |
|     |     | 450 |     |     |     |     |     | 455 |     |     |     | 460 |     |     |     |
| Ser | Ile | Pro | Leu | Thr | Glu | Gly | Leu | Asp | Leu | Ile | Ser | Met | Leu | Thr | Asp |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asp | Ala | Thr | Ile | Ala | Ala | Trp | Asn | Asn | Glu | Gly | Leu | Pro | Ser | Asp | Arg |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Met | Ser | Thr | Glu | Asn | Ala | Ala | Ile | Leu | Thr | His | Cys | Glu | Arg | Trp | Pro |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |     |     |     |
| Leu | Val | Ile | Asp | Pro | Gln | Gln | Gln | Gly | Ile | Lys | Trp | Ile | Lys | Asn | Lys |
|     |     | 515 |     |     |     |     |     | 520 |     |     |     | 525 |     |     |     |
| Tyr | Gly | Met | Asp | Leu | Lys | Val | Thr | His | Leu | Gly | Gln | Lys | Gly | Phe | Leu |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Asn | Ala | Ile | Glu | Thr | Ala | Leu | Ala | Phe | Gly | Asp | Val | Ile | Leu | Ile | Glu |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Asn | Leu | Glu | Glu | Thr | Ile | Asp | Pro | Val | Leu | Asp | Pro | Leu | Leu | Gly | Arg |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Asn | Thr | Ile | Lys | Lys | Gly | Lys | Tyr | Ile | Arg | Ile | Gly | Asp | Lys | Glu | Cys |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     | 590 |     |     |     |
| Glu | Phe | Asn | Lys | Asn | Phe | Arg | Leu | Ile | Leu | His | Thr | Lys | Leu | Ala | Asn |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Pro | His | Tyr | Lys | Pro | Glu | Leu | Gln | Ala | Gln | Thr | Thr | Leu | Leu | Asn | Phe |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |
| Thr | Val | Thr | Glu | Asp | Gly | Leu | Glu | Ala | Gln | Leu | Leu | Ala | Glu | Val | Val |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Ser | Ile | Glu | Arg | Pro | Asp | Leu | Glu | Lys | Leu | Lys | Leu | Val | Leu | Thr | Lys |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     |     |     | 655 |     |
| His | Gln | Asn | Asp | Phe | Lys | Ile | Glu | Leu | Lys | Tyr | Leu | Glu | Asp | Asp | Leu |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     | 670 |     |     |     |
| Leu | Leu | Arg | Leu | Ser | Ala | Ala | Glu | Gly | Ser | Phe | Leu | Asp | Asp | Thr | Lys |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| Leu | Val | Glu | Arg | Leu | Glu | Ala | Thr | Lys | Thr | Thr | Val | Ala | Glu | Ile | Glu |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| His | Lys | Val | Ile | Glu | Ala | Lys | Glu | Asn | Glu | Arg | Lys | Ile | Asn | Glu | Ala |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Arg | Glu | Cys | Tyr | Arg | Pro | Val | Ala | Ala | Arg | Ala | Ser | Leu | Leu | Tyr | Phe |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |
| Val | Ile | Asn | Asp | Leu | Gln | Lys | Ile | Asn | Pro | Leu | Tyr | Gln | Phe | Ser | Leu |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     | 750 |     |     |     |
| Lys | Ala | Phe | Asn | Val | Leu | Phe | His | Arg | Ala | Ile | Glu | Gln | Ala | Asp | Lys |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
| Val | Glu | Asp | Met | Gln | Gly | Arg | Ile | Ser | Ile | Leu | Met | Glu | Ser | Ile | Thr |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |
| His | Ala | Val | Phe | Leu | Tyr | Thr | Ser | Gln | Ala | Leu | Phe | Glu | Lys | Asp | Lys |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |
| Leu | Thr | Phe | Leu | Ser | Gln | Met | Ala | Phe | Gln | Ile | Leu | Leu | Arg | Lys | Lys |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |
| Glu | Ile | Asp | Pro | Leu | Glu | Leu | Asp | Phe | Leu | Leu | Arg | Phe | Thr | Val | Glu |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     | 830 |     |     |     |
| His | Thr | His | Leu | Ser | Pro | Val | Asp | Phe | Leu | Thr | Ser | Gln | Ser | Trp | Ser |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |
| Ala | Ile | Lys | Ala | Ile | Ala | Val | Met | Glu | Glu | Phe | Arg | Gly | Ile | Asp | Arg |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| Asp | Val | Glu | Gly | Ser | Ala | Lys | Gln | Trp | Arg | Lys | Trp | Val | Glu | Ser | Glu |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |
| Cys | Pro | Glu | Lys | Glu | Lys | Leu | Pro | Gln | Glu | Trp | Lys | Lys | Lys | Ser | Leu |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Ile | Gln | Lys | Leu | Ile | Leu | Leu | Arg | Ala | Met | Arg | Pro | Asp | Arg | Met | Thr |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     | 910 |     |     |     |
| Tyr | Ala | Leu | Arg | Asn | Phe | Val | Glu | Glu | Lys | Leu | Gly | Ala | Lys | Tyr | Val |
|     | 915 |     |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Glu | Arg | Thr | Arg | Leu | Asp | Leu | Val | Lys | Ala | Phe | Glu | Glu | Ser | Ser | Pro |



|   |      |      |
|---|------|------|
| 930   | 935  | 940  |
| Ala Thr Pro Ile Phe Phe Ile Leu Ser Pro Gly Val Asp Ala Leu Lys |      |      |
| 945   | 950  | 955  |
| Asp Leu Glu Ile Leu Gly Lys Arg Leu Gly Phe Thr Ile Asp Ser Gly |      | 960  |
|   | 965  | 970  |
| Lys Phe His Asn Val Ser Leu Gly Gln Gly Gln Glu Thr Val Ala Glu |      | 975  |
|   | 980  | 985  |
| Val Ala Leu Glu Lys Ala Ser Lys Gly Gly His Trp Val Ile Leu Gln |      | 990  |
|   | 995  | 1000 |
| Asn Val His Leu Val Ala Lys Trp Leu Gly Thr Leu Glu Lys Leu Leu |      | 1005 |
| 1010  | 1015 | 1020 |
| Glu Arg Phe Ser Gln Gly Ser His Arg Asp Tyr Arg Val Phe Met Ser |      |      |
| 1025  | 1030 | 1035 |
| Ala Glu Ser Ala Pro Thr Pro Asp Glu His Ile Ile Pro Gln Gly Leu |      | 1040 |
|   | 1045 | 1050 |
| Leu Glu Asn Ser Ile Lys Ile Thr Asn Glu Pro Pro Thr Gly Met Leu |      | 1055 |
|   | 1060 | 1065 |
| Ala Asn Leu His Ala Ala Leu Tyr Asn Phe Asp Gln                 |      | 1070 |
| 1075  | 1080 | 1084 |

<210> 3118  
 <211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 3118

|   |  |
|---|--|
| Pro Tyr Ser Leu Ser Thr Ser Cys Leu Gly Ser Pro Thr Ser Pro Arg |  |
| 1 5 10 15   |  |
| Leu Glu Met Asp Pro Asn Cys Ser Cys Ala Thr Gly Gly Ser Cys Thr |  |
| 20 25 30  |  |
| Cys Thr Gly Ser Cys Lys Cys Lys Glu Cys Lys Cys Asn Ser Cys Lys |  |
| 35 40 45  |  |
| Lys Ser Glu Cys Gly Ala Ile Ser Arg Asn Leu Gly Leu Ser Gln Val |  |
| 50 55 60  |  |
| Arg Gly Arg Lys Pro Glu Leu Gly Met Glu Glu                     |  |
| 65 70 75  |  |

<210> 3119  
 <211> 959  
 <212> PRT  
 <213> Homo sapiens

<400> 3119

|   |  |
|---|--|
| Pro Leu Ala Thr Leu Thr Met Glu Glu Gln Gly His Ser Glu Met Glu |  |
| 1 5 10 15   |  |
| Ile Ile Pro Ser Glu Ser His Pro His Ile Gln Leu Leu Lys Ser Asn |  |
| 20 25 30  |  |
| Arg Glu Leu Leu Val Thr His Ile Arg Asn Thr Gln Cys Leu Val Asp |  |
| 35 40 45  |  |
| Asn Leu Leu Lys Asn Asp Tyr Phe Ser Ala Glu Asp Ala Glu Ile Val |  |
| 50 55 60  |  |
| Cys Ala Cys Pro Thr Gln Pro Asp Lys Val Arg Lys Ile Leu Asp Leu |  |
| 65 70 75 80   |  |
| Val Gln Ser Lys Gly Glu Glu Val Ser Glu Phe Phe Leu Tyr Leu Leu |  |
| 85 90 95  |  |
| Gln Gln Leu Ala Asp Ala Tyr Val Asp Leu Arg Pro Trp Leu Leu Glu |  |
| 100 105 110   |  |
| Ile Gly Phe Ser Pro Ser Leu Leu Thr Gln Ser Lys Val Val Val Asn |  |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Thr Asp Pro Val Ser Arg Tyr Thr Gln Gln Leu Arg His His Leu Gly |     |     |
| 130   | 135 | 140 |
| Arg Asp Ser Lys Phe Val Leu Cys Tyr Ala Gln Lys Glu Glu Leu Leu |     |     |
| 145   | 150 | 155 |
| Leu Glu Glu Ile Tyr Met Asp Thr Ile Met Glu Leu Val Gly Phe Ser |     |     |
| 165   | 170 | 175 |
| Asn Glu Ser Leu Gly Ser Leu Asn Ser Leu Ala Cys Leu Leu Asp His |     |     |
| 180   | 185 | 190 |
| Thr Thr Gly Ile Leu Asn Glu Gln Gly Glu Thr Ile Phe Ile Leu Gly |     |     |
| 195   | 200 | 205 |
| Asp Ala Gly Val Gly Lys Ser Met Leu Leu Gln Arg Leu Gln Ser Leu |     |     |
| 210   | 215 | 220 |
| Trp Ala Thr Gly Arg Leu Asp Ala Gly Val Lys Phe Phe Phe His Phe |     |     |
| 225   | 230 | 235 |
| Arg Cys Arg Met Phe Ser Cys Phe Lys Glu Ser Asp Arg Leu Cys Leu |     |     |
| 245   | 250 | 255 |
| Gln Asp Leu Leu Phe Lys His Tyr Cys Tyr Pro Glu Arg Asp Pro Glu |     |     |
| 260   | 265 | 270 |
| Glu Val Phe Ala Phe Leu Leu Arg Phe Pro His Val Ala Leu Phe Thr |     |     |
| 275   | 280 | 285 |
| Phe Asp Gly Leu Asp Glu Leu His Ser Asp Leu Asp Leu Ser Arg Val |     |     |
| 290   | 295 | 300 |
| Pro Asp Ser Ser Cys Pro Trp Glu Pro Ala His Pro Leu Val Leu Leu |     |     |
| 305   | 310 | 315 |
| Ala Asn Leu Leu Ser Gly Lys Leu Leu Lys Gly Ala Ser Lys Leu Leu |     |     |
| 325   | 330 | 335 |
| Thr Ala Arg Thr Gly Ile Glu Val Pro Arg Gln Phe Leu Arg Lys Lys |     |     |
| 340   | 345 | 350 |
| Val Leu Leu Arg Gly Phe Ser Pro Ser His Leu Arg Ala Tyr Ala Arg |     |     |
| 355   | 360 | 365 |
| Arg Met Phe Pro Glu Arg Ala Leu Gln Asp Arg Leu Leu Ser Gln Leu |     |     |
| 370   | 375 | 380 |
| Glu Ala Asn Pro Asn Leu Cys Ser Leu Cys Ser Val Pro Leu Phe Cys |     |     |
| 385   | 390 | 395 |
| Trp Ile Ile Phe Arg Cys Phe Gln His Phe Arg Ala Ala Phe Glu Gly |     |     |
| 405   | 410 | 415 |
| Ser Pro Gln Leu Pro Asp Cys Thr Met Thr Leu Thr Asp Val Phe Leu |     |     |
| 420   | 425 | 430 |
| Leu Val Thr Glu Val His Leu Asn Arg Met Gln Pro Ser Ser Leu Val |     |     |
| 435   | 440 | 445 |
| Gln Arg Asn Thr Arg Ser Pro Val Glu Thr Leu His Ala Gly Arg Asp |     |     |
| 450   | 455 | 460 |
| Thr Leu Cys Ser Leu Gly Gln Val Ala His Arg Gly Met Glu Lys Ser |     |     |
| 465   | 470 | 475 |
| Leu Phe Val Phe Thr Gln Glu Glu Val Gln Ala Ser Gly Leu Gln Glu |     |     |
| 485   | 490 | 495 |
| Arg Asp Met Gln Leu Gly Phe Leu Arg Ala Leu Pro Glu Leu Gly Pro |     |     |
| 500   | 505 | 510 |
| Gly Gly Asp Gln Gln Ser Tyr Glu Phe Phe His Leu Thr Leu Gln Ala |     |     |
| 515   | 520 | 525 |
| Phe Phe Thr Ala Phe Phe Leu Val Leu Asp Asp Arg Val Gly Thr Gln |     |     |
| 530   | 535 | 540 |
| Glu Leu Leu Arg Phe Phe Gln Glu Trp Met Pro Pro Ala Gly Ala Ala |     |     |
| 545   | 550 | 555 |
| Thr Thr Ser Cys Tyr Pro Pro Phe Leu Pro Phe Gln Cys Leu Gln Gly |     |     |
| 565   | 570 | 575 |
| Ser Gly Pro Ala Arg Glu Asp Leu Phe Lys Asn Lys Asp His Phe Gln |     |     |
| 580   | 585 | 590 |
| Phe Thr Asn Leu Phe Leu Cys Gly Leu Leu Ser Lys Ala Lys Gln Lys |     |     |
| 595   | 600 | 605 |
| Leu Leu Arg His Leu Val Pro Ala Ala Ala Leu Arg Arg Lys Arg Lys |     |     |
| 610   | 615 | 620 |
| Ala Leu Trp Ala His Leu Phe Ser Ser Leu Arg Gly Tyr Leu Asn Ser |     |     |

|                 |   |     |     |     |     |     |
|-----------------|---|-----|-----|-----|-----|-----|
| 625             |   | 630 |     | 635 |     | 640 |
| Leu Pro Arg Val | Gln Val Glu Ser Phe Asn Gln Val Gln Ala Met Pro |     |     |     |     |     |
|                 | 645   |     | 650 |     | 655 |     |
| Thr Phe Ile Trp | Met Leu Arg Cys Ile Tyr Glu Thr Gln Ser Gln Lys |     |     |     |     |     |
|                 | 660   |     | 665 |     | 670 |     |
| Val Gly Gln Leu | Ala Ala Arg Gly Ile Cys Ala Asn Tyr Leu Lys Leu |     |     |     |     |     |
|                 | 675   |     | 680 |     | 685 |     |
| Thr Tyr Cys Asn | Ala Cys Ser Ala Asp Cys Ser Ala Leu Ser Phe Val |     |     |     |     |     |
|                 | 690   |     | 695 |     | 700 |     |
| Leu His His Phe | Pro Lys Arg Leu Ala Leu Asp Leu Asp Asn Asn Asn |     |     |     |     |     |
| 705             | 710   |     | 715 |     | 720 |     |
| Leu Asn Asp Tyr | Gly Val Arg Glu Leu Gln Pro Cys Phe Ser Arg Leu |     |     |     |     |     |
|                 | 725   |     | 730 |     | 735 |     |
| Thr Val Leu Arg | Leu Ser Val Asn Gln Ile Thr Asp Gly Gly Val Lys |     |     |     |     |     |
|                 | 740   |     | 745 |     | 750 |     |
| Val Leu Ser Glu | Glu Leu Thr Lys Tyr Lys Ile Val Thr Tyr Leu Gly |     |     |     |     |     |
|                 | 755   |     | 760 |     | 765 |     |
| Leu Tyr Asn Asn | Gln Ile Thr Asp Val Gly Ala Arg Tyr Val Thr Lys |     |     |     |     |     |
|                 | 770   |     | 775 |     | 780 |     |
| Ile Leu Asp Glu | Cys Lys Gly Leu Thr His Leu Lys Leu Gly Lys Asn |     |     |     |     |     |
| 785             | 790   |     | 795 |     | 800 |     |
| Lys Ile Thr Ser | Glu Gly Gly Lys Tyr Leu Ala Leu Ala Val Lys Asn |     |     |     |     |     |
|                 | 805   |     | 810 |     | 815 |     |
| Ser Lys Ser Ile | Ser Glu Val Gly Met Trp Gly Asn Gln Val Gly Asp |     |     |     |     |     |
|                 | 820   |     | 825 |     | 830 |     |
| Glu Gly Ala Lys | Ala Phe Ala Glu Ala Leu Arg Asn His Pro Ser Leu |     |     |     |     |     |
|                 | 835   |     | 840 |     | 845 |     |
| Thr Thr Leu Ser | Leu Ala Ser Asn Gly Ile Ser Thr Glu Gly Gly Lys |     |     |     |     |     |
|                 | 850   |     | 855 |     | 860 |     |
| Ser Leu Ala Arg | Ala Leu Gln Gln Asn Thr Ser Leu Glu Ile Leu Trp |     |     |     |     |     |
| 865             | 870   |     | 875 |     | 880 |     |
| Leu Thr Gln Asn | Glu Leu Asn Asp Glu Val Ala Glu Ser Leu Ala Glu |     |     |     |     |     |
|                 | 885   |     | 890 |     | 895 |     |
| Met Leu Lys Val | Asn Gln Thr Leu Lys His Leu Trp Leu Ile Gln Asn |     |     |     |     |     |
|                 | 900   |     | 905 |     | 910 |     |
| Gln Ile Thr Ala | Lys Gly Thr Ala Gln Leu Ala Asp Ala Leu Gln Ser |     |     |     |     |     |
|                 | 915   |     | 920 |     | 925 |     |
| Asn Thr Gly Ile | Thr Glu Ile Cys Leu Asn Gly Asn Leu Ile Lys Pro |     |     |     |     |     |
|                 | 930   |     | 935 |     | 940 |     |
| Glu Glu Ala Lys | Val Tyr Glu Asp Glu Lys Arg Ile Ile Cys Phe     |     |     |     |     |     |
| 945             | 950   |     | 955 |     | 959 |     |

&lt;210&gt; 3120

&lt;211&gt; 320

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3120

|                 |   |
|-----------------|---|
| Gln Leu Trp Gly | Phe Ala Ala Gly Ser Asp Ser Arg Pro Ala Met Gly |
| 1               | 5 10 15   |
| Cys Asp Gly Gly | Thr Ile Pro Lys Arg His Glu Leu Val Lys Gly Pro |
|                 | 20 25 30  |
| Lys Lys Val Glu | Lys Val Asp Lys Asp Ala Glu Leu Val Ala Gln Trp |
|                 | 35 40 45  |
| Asn Tyr Cys Thr | Leu Ser Gln Glu Ile Leu Arg Arg Pro Ile Val Ala |
|                 | 50 55 60  |
| Cys Glu Leu Gly | Arg Leu Tyr Asn Lys Asp Ala Val Ile Glu Phe Leu |
| 65              | 70 75 80  |
| Leu Asp Lys Ser | Ala Glu Lys Ala Leu Gly Lys Ala Ala Ser His Ile |
|                 | 85 90 95  |
| Lys Ser Ile Lys | Asn Val Thr Glu Leu Lys Leu Ser Asp Asn Pro Ala |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Trp | Glu | Gly | Asp | Lys | Gly | Asn | Thr | Lys | Gly | Asp | Lys | His | Asp | Asp | Leu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Gln | Arg | Ala | Arg | Phe | Ile | Cys | Pro | Val | Val | Gly | Leu | Glu | Met | Asn | Gly |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | His | Arg | Phe | Cys | Phe | Leu | Arg | Cys | Cys | Gly | Cys | Val | Phe | Ser | Glu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Arg | Ala | Leu | Lys | Glu | Ile | Lys | Ala | Glu | Val | Cys | His | Thr | Cys | Gly | Ala |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Ala | Phe | Gln | Glu | Asp | Asp | Val | Ile | Val | Leu | Asn | Gly | Thr | Lys | Glu | Asp |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Val | Asp | Val | Leu | Lys | Thr | Arg | Met | Glu | Glu | Arg | Arg | Leu | Arg | Ala | Lys |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Leu | Glu | Lys | Lys | Thr | Lys | Lys | Pro | Lys | Ala | Ala | Glu | Ser | Val | Ser | Lys |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Pro | Asp | Val | Ser | Glu | Glu | Ala | Pro | Gly | Pro | Ser | Lys | Val | Lys | Thr | Gly |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Lys | Pro | Glu | Glu | Ala | Ser | Leu | Asp | Ser | Arg | Glu | Lys | Lys | Thr | Asn | Leu |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Ala | Pro | Lys | Ser | Thr | Ala | Met | Asn | Glu | Ser | Ser | Ser | Gly | Lys | Ala | Gly |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Lys | Pro | Pro | Cys | Gly | Ala | Thr | Lys | Arg | Ser | Ile | Ala | Asp | Ser | Glu | Glu |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |  |  |
| Ser | Glu | Ala | Tyr | Lys | Ser | Leu | Phe | Thr | Thr | His | Ser | Ser | Ala | Lys | Arg |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |  |
| Ser | Lys | Glu | Glu | Ser | Ala | His | Trp | Val | Thr | His | Thr | Ser | Tyr | Cys | Phe |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |

<210> 3121  
 <211> 495  
 <212> PRT  
 <213> Homo sapiens

<400> 3121

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| His | Ala | Ser | Gly | Pro | Thr | Arg | Pro | Val | Ser | Trp | Ser | Phe | His | Lys | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Lys | Thr | Met | Lys | His | Leu | Leu | Leu | Leu | Leu | Leu | Cys | Val | Phe | Leu | Val |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Lys | Ser | Gln | Gly | Val | Asn | Asp | Asn | Glu | Glu | Gly | Phe | Phe | Ser | Ala | Arg |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Gly | His | Arg | Pro | Leu | Asp | Lys | Lys | Arg | Glu | Glu | Ala | Pro | Ser | Leu | Arg |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Pro | Ala | Pro | Pro | Pro | Ile | Ser | Gly | Gly | Gly | Tyr | Arg | Ala | Arg | Pro | Ala |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Lys | Ala | Ala | Ala | Thr | Gln | Lys | Lys | Val | Glu | Arg | Lys | Ala | Pro | Asp | Ala |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gly | Gly | Cys | Leu | His | Ala | Asp | Pro | Asp | Leu | Gly | Val | Leu | Cys | Pro | Thr |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Cys | Gln | Leu | Gln | Glu | Ala | Leu | Leu | Gln | Gln | Glu | Arg | Pro | Ile | Arg |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Asn | Ser | Val | Asp | Glu | Leu | Asn | Asn | Asn | Val | Glu | Ala | Val | Ser | Gln | Thr |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |
| Ser | Ser | Ser | Ser | Phe | Gln | Tyr | Met | Tyr | Leu | Leu | Lys | Asp | Leu | Trp | Gln |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |  |  |
| Lys | Arg | Gln | Lys | Gln | Val | Lys | Asp | Asn | Glu | Asn | Val | Val | Asn | Glu | Tyr |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ser | Ser | Glu | Leu | Glu | Lys | His | Gln | Leu | Tyr | Ile | Asp | Glu | Thr | Val | Asn |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ser | Asn | Ile | Pro | Thr | Asn | Leu | Arg | Val | Leu | Arg | Ser | Ile | Leu | Glu | Asn |  |  |

|                             |                     |                 |
|-----------------------------|---------------------|-----------------|
| 195                         | 200                 | 205             |
| Leu Arg Ser Lys Ile Gln Lys | Leu Glu Ser Asp Val | Ser Ala Gln Met |
| 210                         | 215                 | 220             |
| Glu Tyr Cys Arg Thr Pro Cys | Thr Val Ser Cys Asn | Ile Pro Val Val |
| 225                         | 230                 | 235             |
| Ser Gly Lys Glu Cys Glu Glu | Ile Ile Arg Lys Gly | Gly Glu Thr Ser |
| 245                         | 250                 | 255             |
| Glu Met Tyr Leu Ile Gln Pro | Asp Ser Ser Val Lys | Pro Tyr Arg Val |
| 260                         | 265                 | 270             |
| Tyr Cys Asp Met Asn Thr Glu | Asn Gly Gly Trp Thr | Val Ile Gln Asn |
| 275                         | 280                 | 285             |
| Arg Gln Asp Gly Ser Val Asp | Phe Gly Arg Lys Trp | Asp Pro Tyr Lys |
| 290                         | 295                 | 300             |
| Gln Gly Phe Gly Asn Val Ala | Thr Asn Thr Asp Gly | Lys Asn Tyr Cys |
| 305                         | 310                 | 315             |
| Gly Leu Pro Gly Glu Tyr Trp | Leu Gly Asn Asp Lys | Ile Ser Gln Leu |
| 325                         | 330                 | 335             |
| Thr Arg Met Gly Pro Thr Glu | Leu Leu Ile Glu Met | Glu Asp Trp Lys |
| 340                         | 345                 | 350             |
| Gly Asp Lys Val Lys Ala His | Tyr Gly Gly Phe Thr | Val Gln Asn Glu |
| 355                         | 360                 | 365             |
| Ala Asn Lys Tyr Gln Ile Ser | Val Asn Lys Tyr Arg | Gly Thr Ala Gly |
| 370                         | 375                 | 380             |
| Asn Ala Leu Met Asp Gly Ala | Ser Gln Leu Met Gly | Glu Asn Arg Thr |
| 385                         | 390                 | 395             |
| Met Thr Ile His Asn Gly Met | Phe Phe Ser Thr Tyr | Asp Arg Asp Asn |
| 405                         | 410                 | 415             |
| Asp Gly Trp Leu Thr Ser Asp | Pro Arg Lys Gln Cys | Ser Lys Glu Asp |
| 420                         | 425                 | 430             |
| Gly Gly Gly Trp Trp Tyr Asn | Arg Cys His Ala Ala | Asn Pro Asn Gly |
| 435                         | 440                 | 445             |
| Arg Tyr Tyr Trp Gly Gly Gln | Tyr Thr Trp Asp Met | Ala Lys His Gly |
| 450                         | 455                 | 460             |
| Thr Asp Asp Gly Val Val Trp | Met Asn Trp Lys Gly | Ser Trp Tyr Ser |
| 465                         | 470                 | 475             |
| Met Lys Lys Met Ser Met Lys | Ile Arg Pro Phe Phe | Pro Gln Gln     |
| 485                         | 490                 | 495             |

&lt;210&gt; 3122

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3122

|                             |                         |                 |
|-----------------------------|-------------------------|-----------------|
| His Ala Ser Gly Pro Thr Arg | Pro Val Ser Trp Ser Phe | His Lys Leu     |
| 1                           | 5                       | 10              |
| Lys Thr Met Lys His Leu Leu | Leu Leu Leu Cys Val     | Phe Leu Val     |
| 20                          | 25                      | 30              |
| Lys Ser Gln Gly Val Asn Asp | Asn Glu Glu Gly Phe     | Phe Ser Ala Arg |
| 35                          | 40                      | 45              |
| Gly His Arg Pro Leu Asp Lys | Lys Arg Glu Glu Ala     | Pro Ser Leu Arg |
| 50                          | 55                      | 60              |
| Pro Ala Pro Pro Pro Ile Ser | Gly Gly Gly Tyr Arg     | Ala Arg Pro Ala |
| 65                          | 70                      | 75              |
| Lys Ala Ala Ala Thr Gln Lys | Lys Val Glu Arg Lys     | Ala Pro Asp Ala |
| 85                          | 90                      | 95              |
| Gly Gly Cys Leu His Ala Asp | Pro Asp Leu Gly Val     | Leu Cys Pro Thr |
| 100                         | 105                     | 110             |
| Gly Cys Gln Leu Gln Glu Ala | Leu Leu Gln Gln Glu     | Arg Pro Ile Arg |
| 115                         | 120                     | 125             |
| Asn Ser Val Asp Glu Leu Asn | Asn Asn Val Glu Ala     | Val Ser Gln Thr |



|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Ser Ser Ser Ser Phe Gln Tyr Met Tyr Leu Leu Lys Asp Leu Trp Gln |     |     |
| 145   | 150 | 155 |
| Lys Arg Gln Lys Gln Val Lys Asp Asn Glu Asn Val Val Asn Glu Tyr |     | 160 |
|   | 165 | 170 |
| Ser Ser Glu Leu Glu Lys His Gln Leu Tyr Ile Asp Glu Thr Val Asn |     | 175 |
|   | 180 | 185 |
| Ser Asn Ile Pro Thr Asn Leu Arg Val Leu Arg Ser Ile Leu Glu Asn |     | 190 |
|   | 195 | 200 |
| Leu Arg Ser Lys Ile Gln Lys Leu Glu Ser Asp Val Ser Ala Gln Met |     | 205 |
|   | 210 | 215 |
| Glu Tyr Cys Arg Thr Pro Cys Thr Val Ser Cys Asn Ile Pro Val Val |     | 220 |
| 225   | 230 | 235 |
| Ser Gly Lys Glu Cys Glu Glu Ile Ile Arg Lys Gly Gly Glu Thr Ser |     | 240 |
|   | 245 | 250 |
| Glu Met Tyr Leu Ile Gln Pro Asp Ser Ser Val Lys Pro Tyr Arg Val |     | 255 |
|   | 260 | 265 |
| Tyr Cys Asp Met Asn Thr Glu Asn Gly Gly Trp Thr Val Ile Gln Asn |     | 270 |
|   | 275 | 280 |
| Arg Gln Asp Gly Ser Val Asp Phe Gly Arg Lys Trp Asp Pro Tyr Lys |     | 285 |
|   | 290 | 295 |
| Gln Gly Phe Gly Asn Val Ala Thr Asn Thr Asp Gly Lys Asn Tyr Cys |     | 300 |
| 305   | 310 | 315 |
| Gly Leu Pro Gly Glu Tyr Trp Leu Gly Asn Asp Lys Ile Ser Gln Leu |     | 320 |
|   | 325 | 330 |
| Thr Arg Met Gly Pro Thr Glu Leu Leu Ile Glu Met Glu Asp Trp Lys |     | 335 |
|   | 340 | 345 |
| Gly Asp Lys Val Lys Ala His Tyr Gly Gly Phe Thr Val Gln Asn Glu |     | 350 |
|   | 355 | 360 |
| Ala Asn Lys Tyr Gln Ile Ser Val Asn Lys Tyr Arg Gly Thr Ala Gly |     | 365 |
|   | 370 | 375 |
| Asn Ala Leu Met Asp Gly Ala Ser Gln Leu Met Gly Glu Asn Arg Thr |     | 380 |
| 385   | 390 | 395 |
| Met Thr Ile His Asn Gly Met Phe Phe Ser Thr Tyr Asp Arg Asp Asn |     | 400 |
|   | 405 | 410 |
| Asp Gly Trp Leu Thr Ser Asp Pro Arg Lys Gln Cys Ser Lys Glu Asp |     | 415 |
|   | 420 | 425 |
| Gly Gly Gly Trp Trp Tyr Asn Arg Cys His Ala Ala Asn Pro Asn Gly |     | 430 |
|   | 435 | 440 |
| Arg Tyr Tyr Trp Gly Gly Gln Tyr Thr Trp Asp Met Ala Lys His Gly |     | 445 |
|   | 450 | 455 |
| Thr Asp Asp Gly Val Val Trp Met Asn Trp Lys Gly Ser Trp Tyr Ser |     | 460 |
| 465   | 470 | 475 |
| Met Lys Lys Met Ser Met Lys Ile Arg Pro Phe Phe Pro Gln Gln     |     | 480 |
|   | 485 | 490 |
|   |     | 495 |

&lt;210&gt; 3123

&lt;211&gt; 495

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3123

|   |    |
|---|----|
| His Ala Ser Gly Pro Thr Arg Pro Val Ser Trp Ser Phe His Lys Leu |    |
| 1   | 5  |
| Lys Thr Met Lys His Leu Leu Leu Leu Leu Cys Val Phe Leu Val     |    |
|   | 20 |
| Lys Ser Gln Gly Val Asn Asp Asn Glu Glu Gly Phe Phe Ser Ala Arg |    |
|   | 35 |
| Gly His Arg Pro Leu Asp Lys Lys Arg Glu Glu Ala Pro Ser Leu Arg |    |
|   | 50 |
| Pro Ala Pro Pro Pro Ile Ser Gly Gly Gly Tyr Arg Ala Arg Pro Ala |    |
|   | 55 |
|   | 60 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| Lys | Ala | Ala | Ala | Thr | Gln | Lys | Lys | Val | Glu | Arg | Lys | Ala | Pro | Asp | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Gly | Gly | Cys | Leu | His | Ala | Asp | Pro | Asp | Leu | Gly | Val | Leu | Cys | Pro | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Cys | Gln | Leu | Gln | Glu | Ala | Leu | Leu | Gln | Gln | Glu | Arg | Pro | Ile | Arg |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Asn | Ser | Val | Asp | Glu | Leu | Asn | Asn | Asn | Val | Glu | Ala | Val | Ser | Gln | Thr |
|     |     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |
| Ser | Ser | Ser | Ser | Phe | Gln | Tyr | Met | Tyr | Leu | Leu | Lys | Asp | Leu | Trp | Gln |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Arg | Gln | Lys | Gln | Val | Lys | Asp | Asn | Glu | Asn | Val | Val | Asn | Glu | Tyr |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Ser | Glu | Leu | Glu | Lys | His | Gln | Leu | Tyr | Ile | Asp | Glu | Thr | Val | Asn |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Asn | Ile | Pro | Thr | Asn | Leu | Arg | Val | Leu | Arg | Ser | Ile | Leu | Glu | Asn |
|     |     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Leu | Arg | Ser | Lys | Ile | Gln | Lys | Leu | Glu | Ser | Asp | Val | Ser | Ala | Gln | Met |
|     |     |     | 210 |     |     |     |     | 215 |     |     | 220 |     |     |     |     |
| Glu | Tyr | Cys | Arg | Thr | Pro | Cys | Thr | Val | Ser | Cys | Asn | Ile | Pro | Val | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Gly | Lys | Glu | Cys | Glu | Glu | Ile | Ile | Arg | Lys | Gly | Gly | Glu | Thr | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Glu | Met | Tyr | Leu | Ile | Gln | Pro | Asp | Ser | Ser | Val | Lys | Pro | Tyr | Arg | Val |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Cys | Asp | Met | Asn | Thr | Glu | Asn | Gly | Gly | Trp | Thr | Val | Ile | Gln | Asn |
|     |     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |     |     |     |
| Arg | Gln | Asp | Gly | Ser | Val | Asp | Phe | Gly | Arg | Lys | Trp | Asp | Pro | Tyr | Lys |
|     |     |     | 290 |     |     |     |     | 295 |     |     | 300 |     |     |     |     |
| Gln | Gly | Phe | Gly | Asn | Val | Ala | Thr | Asn | Thr | Asp | Gly | Lys | Asn | Tyr | Cys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gly | Leu | Pro | Gly | Glu | Tyr | Trp | Leu | Gly | Asn | Asp | Lys | Ile | Ser | Gln | Leu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Thr | Arg | Met | Gly | Pro | Thr | Glu | Leu | Leu | Ile | Glu | Met | Glu | Asp | Trp | Lys |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Gly | Asp | Lys | Val | Lys | Ala | His | Tyr | Gly | Gly | Phe | Thr | Val | Gln | Asn | Glu |
|     |     |     | 355 |     |     |     |     | 360 |     |     |     | 365 |     |     |     |
| Ala | Asn | Lys | Tyr | Gln | Ile | Ser | Val | Asn | Lys | Tyr | Arg | Gly | Thr | Ala | Gly |
|     |     |     | 370 |     |     |     |     | 375 |     |     | 380 |     |     |     |     |
| Asn | Ala | Leu | Met | Asp | Gly | Ala | Ser | Gln | Leu | Met | Gly | Glu | Asn | Arg | Thr |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Met | Thr | Ile | His | Asn | Gly | Met | Phe | Phe | Ser | Thr | Tyr | Asp | Arg | Asp | Asn |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Asp | Gly | Trp | Leu | Thr | Ser | Asp | Pro | Arg | Lys | Gln | Cys | Ser | Lys | Glu | Asp |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gly | Gly | Gly | Trp | Trp | Tyr | Asn | Arg | Cys | His | Ala | Ala | Asn | Pro | Asn | Gly |
|     |     |     | 435 |     |     |     |     | 440 |     |     |     | 445 |     |     |     |
| Arg | Tyr | Trp | Trp | Gly | Gly | Gln | Tyr | Thr | Trp | Asp | Met | Ala | Lys | His | Gly |
|     |     |     | 450 |     |     |     |     | 455 |     |     | 460 |     |     |     |     |
| Thr | Asp | Asp | Gly | Val | Val | Trp | Met | Asn | Trp | Lys | Gly | Ser | Trp | Tyr | Ser |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Met | Lys | Lys | Met | Ser | Met | Lys | Ile | Arg | Pro | Phe | Phe | Pro | Gln | Gln |     |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |

&lt;210&gt; 3124

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3124

Arg Val Asp Asp Phe Val Leu Leu Arg Ser Arg Leu Ala Leu Arg Trp

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Leu | Ser | His | Val | Arg | Arg | Pro | Ser | Arg | Arg | Val | Pro | Arg | Met | Pro | Arg |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Gly | Ser | Arg | Ser | Arg | Thr | Ser | Arg | Met | Ala | Pro | Pro | Ala | Ser | Arg | Ala |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Pro | Gln | Met | Arg | Ala | Ala | Pro | Arg | Pro | Ala | Pro | Val | Ala | Gln | Pro | Pro |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ala | Ala | Ala | Pro | Pro | Ser | Ala | Val | Gly | Ser | Ser | Ala | Ala | Ala | Pro | Arg |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |
| Gln | Pro | Gly | Leu | Met | Ala | Gln | Met | Ala | Thr | Thr | Ala | Ala | Gly | Val | Ala |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Val | Gly | Ser | Ala | Val | Gly | His | Thr | Leu | Gly | His | Ala | Ile | Thr | Gly | Gly |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Phe | Ser | Gly | Gly | Ser | Asn | Ala | Glu | Pro | Ala | Arg | Pro | Asp | Ile | Thr | Tyr |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Gln | Glu | Pro | Gln | Gly | Thr | Gln | Pro | Ala | Gln | Gln | Gln | Gln | Pro | Cys | Leu |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Tyr | Glu | Ile | Lys | Gln | Phe | Leu | Glu | Cys | Ala | Gln | Asn | Gln | Gly | Asp | Ile |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Lys | Leu | Cys | Glu | Gly | Phe | Asn | Glu | Val | Leu | Lys | Gln | Cys | Arg | Leu | Ala |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Asn | Gly | Leu | Ala |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     |     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |  |

&lt;210&gt; 3125

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3125

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Gly | Asn | Ser | Tyr | Asn | His | Arg | Ser | Leu | Ala | Ala | Tyr | Pro | Tyr | Met | Ser |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| His | Ser | Gln | His | Ser | Pro | Tyr | Leu | Gln | Ser | Tyr | His | Asn | Ser | Ser | Ala |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ala | Ala | Gln | Thr | Arg | Gly | Asp | Asp | Thr | Asp | Gln | Gln | Lys | Thr | Thr | Val |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ile | Glu | Asn | Gly | Glu | Ile | Arg | Phe | Asn | Gly | Lys | Gly | Lys | Lys | Ile | Arg |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |
| Lys | Pro | Arg | Thr | Ile | Tyr | Ser | Ser | Leu | Gln | Leu | Gln | Ala | Leu | Asn | His |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Arg | Phe | Gln | Gln | Thr | Gln | Tyr | Leu | Ala | Leu | Pro | Glu | Arg | Ala | Glu | Leu |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Ala | Ala | Ser | Leu | Gly | Leu | Thr | Gln | Thr | Gln | Val | Lys | Ile | Trp | Phe | Gln |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Asn | Lys | Arg | Ser | Lys | Phe | Lys | Lys | Leu | Leu | Lys | Gln | Gly | Ser | Asn | Pro |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| His | Glu | Ser | Asp | Pro | Leu | Gln | Gly | Ser | Ala | Ala | Leu | Ser | Pro | Arg | Ser |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Pro | Ala | Leu | Pro | Pro | Val | Trp | Asp | Val | Ser | Ala | Ser | Ala | Lys | Gly | Val |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Ser | Met | Pro | Pro | Asn | Ser | Tyr | Met | Pro | Gly | Tyr | Ser | His | Trp | Tyr | Ser |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Ser | Pro | His | Gln | Asp | Thr | Met | Gln | Arg | Pro | Gln | Met | Met |     |     |     |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 189 |     |     |     |  |

&lt;210&gt; 3126

&lt;211&gt; 1778

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 3126

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ser | Val | Phe | Phe | Pro | Ile | Pro | Val | Asp | Gly | Arg | Asp | Arg | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Pro | Ser | Leu | Glu | Ser | Thr | Ser | Ser | Glu | Leu | Ser | Thr | Ser | Thr | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Gly | Ser | Leu | Ser | Ala | Met | Ser | Gly | Arg | Asn | Glu | Leu | His | Ser | Arg |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Leu | His | Pro | His | Pro | Gln | Ser | Ser | Leu | Ile | Pro | Met | Met | Phe | Ser | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Glu | Ser | Leu | Leu | Ala | Ser | Cys | Ile | Leu | Arg | Gly | Asn | Phe | Ala | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ala | His | Gln | Val | Leu | Phe | Thr | Phe | Asn | Leu | Lys | Ser | Ser | Pro | Ser | Ser |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Glu | Leu | Met | Phe | Met | Glu | Arg | Tyr | Gln | Glu | Val | Ile | Gln | Glu | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Gln | Val | Glu | His | Lys | Ile | Glu | Asn | Gln | Asn | Ser | Asp | Ala | Gly | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Thr | Ile | Arg | Arg | Thr | Gly | Ser | Gly | Arg | Ser | Thr | Leu | Gln | Ala | Ile |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Ser | Ala | Ala | Ala | Ala | Gly | Met | Val | Phe | Tyr | Ser | Ile | Ser | Asp | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Asp | Lys | Leu | Leu | Asn | Thr | Ser | Gly | Asp | Pro | Ile | Pro | Met | Leu | Gln |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Asp | Phe | Trp | Ile | Ser | Thr | Ala | Leu | Val | Glu | Pro | Thr | Ala | Pro | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Glu | Val | Leu | Glu | Asp | Leu | Ser | Pro | Pro | Ala | Met | Ala | Ala | Phe | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Ala | Cys | Ser | Gln | Cys | Gln | Leu | Trp | Lys | Thr | Cys | Lys | Gln | Leu | Leu |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Thr | Ala | Glu | Arg | Arg | Leu | Asn | Ser | Ser | Leu | Glu | Arg | Arg | Gly | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |
| Arg | Ile | Asp | His | Val | Leu | Leu | Asn | Ala | Asp | Gly | Ile | Arg | Gly | Phe | Pro |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Val | Leu | Gln | Gln | Ile | Ser | Lys | Ser | Leu | Asn | Tyr | Leu | Leu | Met | Ser |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Ser | Gln | Thr | Lys | Ser | Glu | Ser | Val | Glu | Glu | Lys | Gly | Gly | Gly | Pro |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Arg | Cys | Ser | Ile | Thr | Glu | Leu | Leu | Gln | Met | Cys | Trp | Pro | Ser | Leu |
| 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Ser | Glu | Asp | Cys | Val | Ala | Ser | His | Thr | Thr | Leu | Ser | Gln | Gln | Leu | Asp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Val | Leu | Gln | Ser | Leu | Arg | Glu | Ala | Leu | Glu | Leu | Pro | Glu | Pro | Arg |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Pro | Pro | Leu | Ser | Ser | Leu | Val | Glu | Gln | Ala | Ala | Gln | Lys | Ala | Pro |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Ala | Glu | Ala | His | Pro | Val | Gln | Ile | Gln | Thr | Gln | Leu | Leu | Gln | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Asn | Leu | Gly | Lys | Gln | Thr | Pro | Ser | Gly | Ser | Arg | Gln | Met | Asp | Tyr | Leu |
| 370 |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Gly | Thr | Phe | Phe | Ser | Tyr | Cys | Ser | Thr | Leu | Ala | Ala | Val | Leu | Leu | Gln |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ser | Leu | Ser | Ser | Glu | Pro | Asp | His | Val | Glu | Val | Lys | Val | Gly | Asn | Pro |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Phe | Val | Leu | Leu | Gln | Gln | Ser | Ser | Ser | Gln | Leu | Val | Ser | His | Leu | Leu |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Phe | Glu | Arg | Gln | Val | Pro | Pro | Glu | Arg | Leu | Ala | Ala | Leu | Leu | Ala | Gln |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Glu | Asn | Leu | Ser | Leu | Ser | Val | Pro | Gln | Val | Ile | Val | Ser | Cys | Cys | Cys |
| 450 |     |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     |
| Glu | Pro | Leu | Ala | Leu | Cys | Ser | Ser | Arg | Gln | Ser | Gln | Gln | Thr | Ser | Ser |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Leu | Leu | Thr | Arg | Leu | Gly | Thr | Leu | Ala | Gln | Leu | His | Ala | Ser | His | Cys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Leu | Asp | Asp | Leu | Pro | Leu | Ser | Thr | Pro | Ser | Ser | Pro | Arg | Thr | Thr | Glu |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Asn | Pro | Thr | Leu | Glu | Arg | Lys | Pro | Tyr | Ser | Ser | Pro | Arg | Asp | Ser | Ser |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Leu | Pro | Ala | Leu | Thr | Ser | Ser | Ala | Leu | Ala | Phe | Leu | Lys | Ser | Arg | Ser |  |  |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Lys | Leu | Leu | Ala | Thr | Val | Ala | Cys | Leu | Gly | Ala | Ser | Pro | Arg | Leu | Lys |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Val | Ser | Lys | Pro | Ser | Leu | Ser | Trp | Lys | Glu | Leu | Arg | Gly | Arg | Arg | Glu |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |  |
| Val | Pro | Leu | Ala | Ala | Glu | Gln | Val | Ala | Arg | Glu | Cys | Glu | Arg | Leu | Leu |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     |     | 590 |     |  |  |
| Glu | Gln | Phe | Pro | Leu | Phe | Glu | Ala | Phe | Leu | Leu | Ala | Ala | Trp | Glu | Pro |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Leu | Arg | Gly | Ser | Leu | Gln | Gln | Gly | Gln | Ser | Leu | Ala | Val | Asn | Leu | Cys |  |  |
|     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Gly | Trp | Ala | Ser | Leu | Ser | Thr | Val | Leu | Leu | Gly | Leu | His | Ser | Pro | Ile |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Ala | Leu | Asp | Val | Leu | Ser | Glu | Ala | Phe | Glu | Glu | Ser | Leu | Val | Ala | Arg |  |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Asp | Trp | Ser | Arg | Ala | Leu | Gln | Leu | Thr | Glu | Val | Tyr | Gly | Arg | Asp | Val |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Asp | Asp | Leu | Ser | Ser | Ile | Lys | Asp | Ala | Val | Leu | Ser | Cys | Ala | Val | Ala |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Cys | Asp | Lys | Glu | Gly | Trp | Gln | Tyr | Leu | Phe | Pro | Val | Lys | Asp | Ala | Ser |  |  |
|     |     | 690 |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Leu | Arg | Ser | Arg | Leu | Ala | Leu | Gln | Phe | Val | Asp | Arg | Trp | Pro | Leu | Glu |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Ser | Cys | Leu | Glu | Ile | Leu | Ala | Tyr | Cys | Ile | Ser | Asp | Thr | Ala | Val | Gln |  |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Glu | Gly | Leu | Lys | Cys | Glu | Leu | Gln | Arg | Lys | Leu | Ala | Glu | Leu | Gln | Val |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     |     | 750 |     |  |  |
| Tyr | Gln | Lys | Ile | Leu | Gly | Leu | Gln | Ser | Pro | Pro | Val | Trp | Cys | Asp | Trp |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |
| Gln | Thr | Leu | Arg | Ser | Cys | Cys | Val | Glu | Asp | Pro | Ser | Thr | Val | Met | Asn |  |  |
|     |     | 770 |     |     |     | 775 |     |     |     |     |     | 780 |     |     |     |  |  |
| Met | Ile | Leu | Glu | Ala | Gln | Glu | Tyr | Glu | Leu | Cys | Glu | Glu | Trp | Gly | Cys |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Leu | Tyr | Pro | Ile | Pro | Arg | Glu | His | Leu | Ile | Ser | Leu | His | Gln | Lys | His |  |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |
| Leu | Leu | His | Leu | Leu | Glu | Arg | Arg | Asp | His | Asp | Lys | Ala | Leu | Gln | Leu |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Leu | Arg | Arg | Ile | Pro | Asp | Pro | Thr | Met | Cys | Leu | Glu | Val | Thr | Glu | Gln |  |  |
|     |     |     | 835 |     |     |     | 840 |     |     |     |     |     | 845 |     |     |  |  |
| Ser | Leu | Asp | Gln | His | Thr | Ser | Leu | Ala | Thr | Ser | His | Phe | Leu | Ala | Asn |  |  |
|     |     |     | 850 |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |
| Tyr | Leu | Thr | Thr | His | Phe | Tyr | Gly | Gln | Leu | Thr | Ala | Val | Arg | His | Arg |  |  |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |  |  |
| Glu | Ile | Gln | Ala | Leu | Tyr | Val | Gly | Ser | Lys | Ile | Leu | Leu | Thr | Leu | Pro |  |  |
|     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |     |  |  |
| Glu | Gln | His | Arg | Ala | Ser | Tyr | Ser | His | Leu | Ser | Ser | Asn | Pro | Leu | Phe |  |  |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |
| Met | Leu | Glu | Gln | Leu | Leu | Met | Asn | Met | Lys | Val | Asp | Trp | Ala | Thr | Val |  |  |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |  |  |
| Ala | Val | Gln | Thr | Leu | Gln | Gln | Leu | Leu | Val | Gly | Gln | Glu | Ile | Gly | Phe |  |  |
|     |     |     | 930 |     |     | 935 |     |     |     |     |     | 940 |     |     |     |  |  |
| Thr | Met | Asp | Glu | Val | Asp | Ser | Leu | Leu | Ser | Arg | Tyr | Ala | Glu | Lys | Ala |  |  |
| 945 |     |     |     |     | 950 |     |     |     |     | 955 |     |     |     |     | 960 |  |  |
| Leu | Asp | Phe | Pro | Tyr | Pro | Gln | Arg | Glu | Lys | Arg | Ser | Asp | Ser | Val | Ile |  |  |
|     |     |     | 965 |     |     |     |     |     | 970 |     |     |     |     | 975 |     |  |  |
| His | Leu | Gln | Glu | Ile | Val | His | Gln | Ala | Ala | Asp | Pro | Glu | Thr | Leu | Pro |  |  |
|     |     |     | 980 |     |     |     | 985 |     |     |     |     |     | 990 |     |     |  |  |
| Arg | Ser | Pro | Ser | Ala | Glu | Phe | Ser | Pro | Ala | Ala | Pro | Pro | Gly | Ile | Ser |  |  |



|   |      |      |
|---|------|------|
| 995   | 1000 | 1005 |
| Ser Ile His Ser Pro Ser Leu Arg Glu Arg Ser Phe Pro Pro Thr Gln |      |      |
| 1010  | 1015 | 1020 |
| Pro Ser Gln Glu Phe Val Pro Pro Ala Thr Pro Pro Ala Arg His Gln |      |      |
| 1025  | 1030 | 1035 |
| Trp Val Pro Asp Glu Thr Glu Ser Ile Cys Met Val Cys Cys Arg Glu |      |      |
| 1045  | 1050 | 1055 |
| His Phe Thr Met Phe Asn Arg Arg His His Cys Arg Arg Cys Gly Arg |      |      |
| 1060  | 1065 | 1070 |
| Leu Val Cys Ser Ser Cys Ser Thr Lys Lys Met Val Val Glu Gly Cys |      |      |
| 1075  | 1080 | 1085 |
| Arg Glu Asn Pro Ala Arg Val Cys Asp Gln Cys Tyr Ser Tyr Cys Asn |      |      |
| 1090  | 1095 | 1100 |
| Lys Asp Val Pro Glu Glu Pro Ser Glu Lys Pro Glu Ala Leu Asp Ser |      |      |
| 1105  | 1110 | 1115 |
| Ser Lys Ser Glu Ser Pro Pro Tyr Ser Phe Val Val Arg Val Pro Lys |      |      |
| 1125  | 1130 | 1135 |
| Ala Asp Glu Val Glu Trp Ile Leu Asp Leu Lys Glu Glu Glu Asn Glu |      |      |
| 1140  | 1145 | 1150 |
| Leu Val Arg Ser Glu Phe Tyr Tyr Glu Gln Ala Pro Ser Ala Ser Leu |      |      |
| 1155  | 1160 | 1165 |
| Cys Ile Ala Ile Leu Asn Leu His Arg Asp Ser Ile Ala Cys Gly His |      |      |
| 1170  | 1175 | 1180 |
| Gln Leu Ile Glu His Cys Cys Arg Leu Ser Lys Gly Leu Thr Asn Pro |      |      |
| 1185  | 1190 | 1195 |
| Glu Val Asp Ala Gly Leu Leu Thr Asp Ile Met Lys Gln Leu Leu Phe |      |      |
| 1205  | 1210 | 1215 |
| Ser Ala Lys Met Met Phe Val Lys Ala Gly Gln Ser Gln Asp Leu Ala |      |      |
| 1220  | 1225 | 1230 |
| Leu Cys Asp Ser Tyr Ile Ser Lys Val Asp Val Leu Asn Ile Leu Val |      |      |
| 1235  | 1240 | 1245 |
| Ala Ala Ala Tyr Arg His Val Pro Ser Leu Asp Gln Ile Leu Gln Pro |      |      |
| 1250  | 1255 | 1260 |
| Ala Ala Val Thr Arg Leu Arg Asn Gln Leu Leu Glu Ala Glu Tyr Tyr |      |      |
| 1265  | 1270 | 1275 |
| Gln Leu Gly Val Glu Val Ser Thr Lys Thr Gly Leu Asp Thr Thr Gly |      |      |
| 1285  | 1290 | 1295 |
| Ala Trp His Ala Trp Gly Met Ala Cys Leu Lys Ala Gly Asn Leu Thr |      |      |
| 1300  | 1305 | 1310 |
| Ala Ala Arg Glu Lys Phe Ser Arg Cys Leu Lys Pro Pro Phe Asp Leu |      |      |
| 1315  | 1320 | 1325 |
| Asn Gln Leu Asn His Gly Ser Arg Leu Val Gln Asp Val Val Glu Tyr |      |      |
| 1330  | 1335 | 1340 |
| Leu Glu Ser Thr Val Arg Pro Phe Val Ser Leu Gln Asp Asp Asp Tyr |      |      |
| 1345  | 1350 | 1355 |
| Phe Ala Thr Leu Arg Glu Leu Glu Ala Thr Leu Arg Thr Gln Ser Leu |      |      |
| 1365  | 1370 | 1375 |
| Ser Leu Ala Val Ile Pro Glu Gly Lys Ile Met Asn Asn Thr Tyr Tyr |      |      |
| 1380  | 1385 | 1390 |
| Gln Glu Cys Leu Phe Tyr Leu His Asn Tyr Ser Thr Asn Leu Ala Ile |      |      |
| 1395  | 1400 | 1405 |
| Ile Ser Phe Tyr Val Arg His Ser Cys Leu Arg Glu Ala Leu Leu His |      |      |
| 1410  | 1415 | 1420 |
| Leu Leu Asn Lys Glu Ser Pro Pro Glu Val Phe Ile Glu Gly Ile Phe |      |      |
| 1425  | 1430 | 1435 |
| Gln Pro Ser Tyr Lys Ser Gly Lys Leu His Thr Leu Glu Asn Leu Leu |      |      |
| 1445  | 1450 | 1455 |
| Glu Ser Ile Asp Pro Thr Leu Glu Ser Trp Gly Lys Tyr Leu Ile Ala |      |      |
| 1460  | 1465 | 1470 |
| Ala Cys Gln His Leu Gln Lys Lys Asn Tyr Tyr His Ile Leu Tyr Glu |      |      |
| 1475  | 1480 | 1485 |
| Leu Gln Gln Phe Met Lys Asp Gln Val Arg Ala Ala Met Thr Cys Ile |      |      |
| 1490  | 1495 | 1500 |
| Arg Phe Phe Ser His Lys Ala Lys Ser Tyr Thr Glu Leu Gly Glu Lys |      |      |

1505                      1510                      1515                      1520  
 Leu Ser Trp Leu Leu Lys Ala Lys Asp His Leu Lys Ile Tyr Leu Gln  
                                  1525                      1530                      1535  
 Glu Thr Ser Arg Ser Ser Gly Arg Lys Lys Thr Thr Phe Phe Arg Lys  
                                  1540                      1545                      1550  
 Lys Met Thr Ala Ala Asp Val Ser Arg His Met Asn Thr Leu Gln Leu  
                                  1555                      1560                      1565  
 Gln Met Glu Val Thr Arg Phe Leu His Arg Cys Glu Ser Ala Gly Thr  
                                  1570                      1575                      1580  
 Ser Gln Ile Thr Thr Leu Pro Leu Pro Thr Leu Phe Gly Asn Asn His  
 1585                      1590                      1595                      1600  
 Met Lys Met Asp Val Ala Cys Lys Val Met Leu Gly Gly Lys Asn Val  
                                  1605                      1610                      1615  
 Glu Asp Gly Phe Gly Ile Ala Phe Arg Val Leu Gln Asp Phe Gln Leu  
                                  1620                      1625                      1630  
 Asp Ala Ala Met Thr Tyr Cys Arg Ala Ala Arg Gln Leu Val Glu Lys  
                                  1635                      1640                      1645  
 Glu Lys Tyr Ser Glu Ile Gln Gln Leu Leu Lys Cys Val Ser Glu Ser  
                                  1650                      1655                      1660  
 Gly Met Ala Ala Lys Ser Asp Gly Asp Thr Ile Leu Leu Asn Cys Leu  
 1665                      1670                      1675                      1680  
 Glu Ala Phe Lys Arg Ile Pro Pro Gln Cys Cys Phe Cys Ser Ala Gln  
                                  1685                      1690                      1695  
 Glu Leu Glu Gly Leu Ile Gln Ala Ile His Asn Asp Asp Asn Lys Val  
                                  1700                      1705                      1710  
 Arg Ala Tyr Leu Ile Cys Cys Lys Leu Arg Ser Ala Tyr Leu Ile Ala  
                                  1715                      1720                      1725  
 Val Lys Gln Glu His Ser Arg Ala Thr Ala Leu Val Gln Gln Val Gln  
                                  1730                      1735                      1740  
 Gln Ala Ala Lys Ser Ser Gly Asp Ala Val Val Gln Asp Ile Cys Ala  
 1745                      1750                      1755                      1760  
 Gln Trp Leu Leu Thr Ser His Pro Arg Gly Ala His Gly Pro Gly Ser  
                                  1765                      1770                      1775  
 Arg Lys  
 1778

<210> 3127  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 3127  
 His Leu Gly Pro Pro Leu Ala Trp Ile Pro Ala Ala Ser Leu Thr Ser  
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 Thr Lys Gly Glu Phe Gly Val Glu Asp Asp Arg Pro Ala Arg Gly Pro  
                                   20                                  25                                  30  
 Pro Pro Pro Lys Ser Glu Glu Ala Ser Trp Ser Glu Ser Gly Val Ser  
                                   35                                  40                                  45  
 Ser Ser Ser Gly Asp Gly Pro Phe Ala Gly Gly Glu Val Asp Lys Arg  
                                   50                                  55                                  60  
 Leu His Gln Leu Lys Thr Gln Leu Ala Thr Leu Thr Ser Ser Leu Ala  
                                   65                                  70                                  75                                  80  
 Thr Val Thr Gln Glu Lys Ser Arg Met Glu Ala Ser Tyr Leu Ala Asp  
                                   85                                  90                                  95  
 Lys Lys Lys Met Lys Gln Asp Leu Glu Asp Ala Ser Asn Lys Ala Glu  
                                   100                                  105                                  110  
 Glu Glu Arg Ala Arg Leu Glu Gly Glu Leu Lys Gly Leu Gln Glu Gln  
                                   115                                  120                                  125  
 Ile Ala Glu Thr Lys Ala Arg Leu Ile Thr Gln Gln His Asp Arg Ala  
                                   130                                  135                                  140  
 Gln Glu Gln Ser Asp His Ala Leu Met Leu Arg Glu Leu Gln Lys Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Leu | Gln | Glu | Glu | Arg | Thr | Gln | Arg | Gln | Asp | Leu | Glu | Leu | Arg | Leu | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Thr | Arg | Glu | Ala | Leu | Ala | Gly | Arg | Ala | Tyr | Ala | Ala | Glu | Gln | Met |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Gly | Phe | Glu | Leu | Gln | Thr | Lys | Gln | Leu | Thr | Arg | Glu | Val | Glu | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Lys | Ser | Glu | Leu | Gln | Ala | Ile | Arg | Asp | Glu | Lys | Asn | Gln | Pro | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Arg | Leu | Gln | Glu | Leu | Gln | Glu | Glu | Ala | Ala | Arg | Leu | Lys | Ser | His |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |
| Phe | Gln | Ala | Gln | Leu | Gln | Gln | Glu | Met | Arg | Lys | Val | Ile | Ile | His | Ile |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Ser | Phe | Lys | His | Gln | Pro | Leu | Thr |     |     |     |     |     |     |     |     |
|     |     |     | 260 |     |     |     | 264 |     |     |     |     |     |     |     |     |

<210> 3128  
 <211> 351  
 <212> PRT  
 <213> Homo sapiens

<400> 3128

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Gly | Ser | Pro | Ala | Pro | Ser | Ser | Ser | Ser | Ala | Met | Ala | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Cys | Gly | Pro | Gly | Ala | Ala | Gly | Tyr | Cys | Leu | Leu | Leu | Gly | Leu | His | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Leu | Leu | Thr | Ala | Gly | Pro | Ala | Leu | Gly | Trp | Asn | Asp | Pro | Asp | Arg |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Met | Leu | Leu | Arg | Asp | Val | Lys | Ala | Leu | Thr | Leu | His | Tyr | Asp | Arg | Tyr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Thr | Ser | Arg | Arg | Leu | Asp | Pro | Ile | Pro | Gln | Leu | Lys | Cys | Val | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Gly | Thr | Ala | Gly | Cys | Asp | Ser | Tyr | Thr | Pro | Lys | Val | Ile | Gln | Cys | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Lys | Gly | Trp | Asp | Gly | Tyr | Asp | Val | Gln | Trp | Glu | Cys | Lys | Thr | Asp |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Leu | Asp | Ile | Ala | Tyr | Lys | Phe | Gly | Lys | Thr | Val | Val | Ser | Cys | Glu | Gly |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Tyr | Glu | Ser | Ser | Glu | Asp | Gln | Tyr | Val | Leu | Arg | Gly | Ser | Cys | Gly | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Tyr | Asn | Leu | Asp | Tyr | Thr | Glu | Leu | Gly | Leu | Gln | Lys | Leu | Lys | Glu |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Ser | Gly | Lys | Gln | His | Gly | Phe | Ala | Ser | Phe | Ser | Asp | Tyr | Tyr | Tyr | Lys |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Trp | Ser | Ser | Ala | Asp | Ser | Cys | Asn | Met | Ser | Gly | Leu | Ile | Thr | Ile | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Val | Leu | Leu | Gly | Ile | Ala | Phe | Val | Val | Tyr | Lys | Leu | Phe | Leu | Ser | Asp |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Gln | Tyr | Ser | Pro | Pro | Pro | Tyr | Ser | Glu | Tyr | Pro | Pro | Phe | Ser | His |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Tyr | Gln | Arg | Phe | Thr | Asn | Ser | Ala | Gly | Pro | Pro | Pro | Pro | Gly | Phe |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |
| Lys | Ser | Glu | Phe | Thr | Gly | Pro | Gln | Asn | Thr | Gly | His | Gly | Ala | Thr | Ser |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Gly | Phe | Gly | Ser | Ala | Phe | Thr | Gly | Gln | Gln | Gly | Tyr | Glu | Asn | Ser | Gly |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Gly | Phe | Trp | Thr | Gly | Leu | Gly | Thr | Gly | Gly | Ile | Leu | Gly | Tyr | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Phe | Gly | Ser | Asn | Arg | Ala | Ala | Thr | Pro | Phe | Ser | Asp | Ser | Trp | Tyr | Tyr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Ser | Tyr | Pro | Pro | Ser | Tyr | Pro | Gly | Thr | Trp | Asn | Arg | Ala | Tyr | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Pro | Leu | His | Gly | Gly | Ser | Gly | Ser | Tyr | Ser | Val | Cys | Ser | Asn | Ser | Asp |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Thr | Lys | Thr | Arg | Thr | Ala | Ser | Gly | Tyr | Gly | Gly | Thr | Arg | Arg | Arg |     |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 | 351 |     |

<210> 3129  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 3129

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Ala | Arg | Arg | Pro | Lys | Gln | Gln | Ser | Ser | Glu | Lys | Ser | Arg | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Ile | Arg | Asn | Trp | Leu | Thr | Ile | Phe | Ile | Leu | Phe | Pro | Leu | Lys | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Glu | Lys | Cys | Glu | Ser | Ser | Val | Ser | Leu | Thr | Val | Pro | Pro | Val | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Lys | Leu | Glu | Asn | Gly | Ser | Ser | Thr | Asn | Val | Ser | Leu | Thr | Leu | Arg | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Pro | Leu | Asn | Ala | Thr | Leu | Val | Ile | Thr | Phe | Glu | Ile | Thr | Phe | Arg | Ser |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Asn | Ile | Thr | Ile | Leu | Glu | Leu | Pro | Asp | Glu | Val | Val | Val | Pro | Pro |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Val | Thr | Asn | Ser | Ser | Phe | Gln | Val | Thr | Ser | Gln | Asn | Val | Gly | Gln |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Leu | Thr | Val | Tyr | Leu | His | Gly | Asn | His | Ser | Asn | Gln | Thr | Gly | Pro | Arg |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ile | Arg | Phe | Leu | Val | Ile | Arg | Ser | Ser | Ala | Ile | Ser | Ile | Ile | Asn | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Val | Ile | Gly | Trp | Ile | Tyr | Phe | Val | Ala | Trp | Ser | Ile | Ser | Phe | Tyr | Pro |
|     | 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gln | Val | Ile | Met | Asn | Trp | Arg | Arg | Lys | Ser | Val | Ile | Gly | Leu | Ser | Phe |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Asp | Phe | Val | Ala | Leu | Asn | Leu | Thr | Gly | Phe | Val | Ala | Tyr | Ser | Val | Phe |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asn | Ile | Gly | Leu | Leu | Trp | Val | Pro | Tyr | Ile | Lys | Glu | Gln | Phe | Leu | Leu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Lys | Tyr | Pro | Asn | Gly | Val | Asn | Pro | Val | Asn | Ser | Asn | Asp | Val | Phe | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Leu | His | Ala | Val | Val | Leu | Thr | Leu | Ile | Ile | Ile | Val | Gln | Cys | Cys |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Leu | Tyr | Glu | Arg | Gly | Gly | Gln | Arg | Val | Ser | Trp | Pro | Ala | Ile | Gly | Phe |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Leu | Val | Leu | Ala | Trp | Leu | Phe | Ala | Phe | Val | Thr | Met | Ile | Val | Ala | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Gly | Val | Ile | Thr | Trp | Leu | Gln | Phe | Leu | Phe | Cys | Phe | Ser | Tyr | Ile |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Lys | Leu | Ala | Val | Thr | Leu | Val | Lys | Tyr | Phe | Pro | Gln | Ala | Tyr | Met | Asn |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Tyr | Tyr | Lys | Ser | Thr | Glu | Gly | Trp | Ser | Ile | Gly | Asn | Val | Leu | Leu |
|     | 305 |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |
| Asp | Phe | Thr | Gly | Gly | Ser | Phe | Ser | Leu | Leu | Gln | Met | Phe | Leu | Gln | Ser |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Tyr | Asn | Asn | Asp | Gln | Trp | Thr | Leu | Ile | Phe | Gly | Asp | Pro | Thr | Lys | Phe |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gly | Leu | Gly | Val | Phe | Ser | Ile | Val | Phe | Asp | Val | Val | Phe | Phe | Ile | Gln |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| His | Phe | Cys | Leu | Tyr | Arg | Lys | Arg | Pro | Gly | Tyr | Asp | Gln | Leu | Asn |     |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     | 383 |     |

<210> 3130  
 <211> 665  
 <212> PRT  
 <213> Homo sapiens

<400> 3130  
 Cys Trp Trp Pro Pro Leu Leu Pro Gln Leu Glu Pro Glu Pro Pro Pro  
 1 5 10 15  
 Leu Arg Pro Arg Val Ala Ala Ser Gln Gly Gly Gly Met Leu Gly Lys  
 20 25 30  
 Gly Val Val Gly Gly Gly Gly Thr Lys Ala Pro Lys Pro Ser Phe  
 35 40 45  
 Val Ser Tyr Val Arg Pro Glu Glu Ile His Thr Asn Glu Lys Glu Val  
 50 55 60  
 Thr Glu Lys Glu Val Thr Leu His Leu Leu Pro Gly Glu Gln Leu Leu  
 65 70 75 80  
 Cys Glu Ala Ser Thr Val Leu Lys Tyr Val Gln Glu Asp Ser Cys Gln  
 85 90 95  
 His Gly Val Tyr Gly Arg Leu Val Cys Thr Asp Phe Lys Ile Ala Phe  
 100 105 110  
 Leu Gly Asp Asp Glu Ser Ala Leu Asp Asn Asp Glu Thr Gln Phe Lys  
 115 120 125  
 Asn Lys Val Ile Gly Glu Asn Asp Ile Thr Leu His Cys Val Asp Gln  
 130 135 140  
 Ile Tyr Gly Val Phe Asp Glu Lys Lys Lys Thr Leu Phe Gly Gln Leu  
 145 150 155 160  
 Lys Lys Tyr Pro Glu Lys Leu Ile Ile His Cys Lys Asp Leu Arg Val  
 165 170 175  
 Phe Gln Phe Cys Leu Arg Tyr Thr Lys Glu Glu Glu Val Lys Arg Ile  
 180 185 190  
 Val Ser Gly Ile Ile His His Thr Gln Ala Pro Lys Leu Leu Lys Arg  
 195 200 205  
 Leu Phe Leu Phe Ser Tyr Ala Thr Ala Ala Gln Asn Asn Thr Val Thr  
 210 215 220  
 Asp Pro Lys Asn His Thr Val Met Phe Asp Thr Leu Lys Asp Trp Cys  
 225 230 235 240  
 Trp Glu Leu Glu Arg Thr Lys Gly Asn Met Lys Tyr Lys Ala Val Ser  
 245 250 255  
 Val Asn Glu Gly Tyr Lys Val Cys Glu Arg Leu Pro Ala Tyr Phe Val  
 260 265 270  
 Val Pro Thr Pro Leu Pro Glu Glu Asn Val Gln Arg Phe Gln Gly His  
 275 280 285  
 Gly Ile Pro Ile Trp Cys Trp Ser Cys His Asn Gly Ser Ala Leu Leu  
 290 295 300  
 Lys Met Ser Ala Leu Pro Lys Glu Gln Asp Asp Gly Ile Leu Gln Ile  
 305 310 315 320  
 Gln Lys Ser Phe Leu Asp Gly Ile Tyr Lys Thr Ile His Arg Pro Pro  
 325 330 335  
 Tyr Glu Ile Val Lys Thr Glu Asp Leu Ser Ser Asn Phe Leu Ser Leu  
 340 345 350  
 Gln Glu Ile Gln Thr Ala Tyr Ser Lys Phe Lys Gln Leu Phe Leu Ile  
 355 360 365  
 Asp Asn Ser Thr Glu Phe Trp Asp Thr Asp Ile Lys Trp Phe Ser Leu  
 370 375 380  
 Leu Glu Ser Ser Ser Trp Leu Asp Ile Ile Arg Arg Cys Leu Lys Lys  
 385 390 395 400  
 Ala Ile Glu Ile Thr Glu Cys Met Glu Ala Gln Asn Met Asn Val Leu  
 405 410 415  
 Leu Leu Glu Glu Asn Ala Ser Asp Leu Cys Cys Leu Ile Ser Ser Leu  
 420 425 430  
 Val Gln Leu Met Met Asp Pro His Cys Arg Thr Arg Ile Gly Phe Gln

|   |     |     |
|---|-----|-----|
| 435   | 440 | 445 |
| Ser Leu Ile Gln Lys Glu Trp Val Met Gly Gly His Cys Phe Leu Asp |     |     |
| 450   | 455 | 460 |
| Arg Cys Asn His Leu Arg Gln Asn Asp Lys Glu Glu His Gln Arg Gln |     |     |
| 465   | 470 | 475 |
| Leu Ser Leu Pro Leu Thr Gln Ser Lys Ser Ser Pro Lys Arg Gly Phe |     |     |
| 485   | 490 | 495 |
| Phe Arg Glu Glu Thr Asp His Leu Ile Lys Asn Leu Leu Gly Lys Arg |     |     |
| 500   | 505 | 510 |
| Ile Ser Lys Leu Ile Asn Ser Ser Asp Glu Leu Gln Asp Asn Phe Arg |     |     |
| 515   | 520 | 525 |
| Glu Phe Tyr Asp Ser Trp His Ser Lys Ser Thr Asp Tyr His Gly Leu |     |     |
| 530   | 535 | 540 |
| Leu Leu Pro His Ile Glu Gly Pro Glu Ile Lys Val Trp Ala Gln Arg |     |     |
| 545   | 550 | 555 |
| Tyr Leu Arg Trp Ile Pro Glu Ala Gln Ile Leu Gly Gly Gly Gln Val |     |     |
| 565   | 570 | 575 |
| Ala Thr Leu Ser Lys Leu Leu Glu Met Met Glu Glu Val Gln Ser Leu |     |     |
| 580   | 585 | 590 |
| Gln Glu Lys Ile Asp Glu Arg His His Ser Gln Gln Ala Pro Gln Ala |     |     |
| 595   | 600 | 605 |
| Glu Ala Pro Cys Leu Leu Arg Asn Ser Ala Arg Leu Ser Ser Leu Phe |     |     |
| 610   | 615 | 620 |
| Pro Phe Ala Leu Leu Gln Arg His Ser Ser Lys Pro Val Leu Pro Thr |     |     |
| 625   | 630 | 635 |
| Ser Gly Trp Lys Ala Leu Gly Asp Glu Asp Asp Leu Ala Lys Arg Glu |     |     |
| 645   | 650 | 655 |
| Asp Glu Phe Val Asp Leu Gly Asp Val                             |     |     |
| 660   | 665 |     |

&lt;210&gt; 3131

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3131

|   |     |     |
|---|-----|-----|
| Gln Ser Arg Ser Arg Pro Arg Arg Glu Gly Val Gly Thr Gly Ser Arg |     |     |
| 1   | 5   | 10  |
| Ala Val Leu Cys Ile Leu Ala Thr Cys Gly Ser Lys Met Ser Asp Ile |     |     |
| 20  | 25  | 30  |
| Gly Asp Trp Phe Arg Ser Ile Pro Ala Ile Thr Arg Tyr Trp Phe Ala |     |     |
| 35  | 40  | 45  |
| Ala Thr Val Ala Val Pro Leu Val Gly Lys Leu Gly Leu Ile Ser Pro |     |     |
| 50  | 55  | 60  |
| Ala Tyr Leu Phe Leu Trp Pro Glu Ala Phe Leu Tyr Arg Phe Gln Ile |     |     |
| 65  | 70  | 75  |
| Trp Arg Pro Ile Thr Ala Thr Phe Tyr Phe Pro Val Gly Pro Gly Thr |     |     |
| 85  | 90  | 95  |
| Gly Phe Leu Tyr Leu Val Asn Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr |     |     |
| 100   | 105 | 110 |
| Arg Leu Glu Thr Gly Ala Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe |     |     |
| 115   | 120 | 125 |
| Met Leu Leu Phe Asn Trp Ile Cys Ile Val Ile Thr Gly Leu Ala Met |     |     |
| 130   | 135 | 140 |
| Asp Met Gln Leu Leu Met Ile Pro Leu Ile Met Ser Val Leu Tyr Val |     |     |
| 145   | 150 | 155 |
| Trp Ala Gln Leu Asn Arg Asp Met Ile Val Ser Phe Trp Phe Gly Thr |     |     |
| 165   | 170 | 175 |
| Arg Phe Lys Ala Cys Tyr Leu Pro Trp Val Ile Leu Gly Phe Asn Tyr |     |     |
| 180   | 185 | 190 |
| Ile Ile Gly Gly Ser Val Ile Asn Glu Leu Ile Gly Asn Leu Val Gly |     |     |



|     |   |     |     |     |     |
|-----|---|-----|-----|-----|-----|
|     | 195   |     | 200 |     | 205 |
| His | Leu Tyr Phe Phe Leu Met Phe Arg Tyr Pro Met Asp Leu Gly Gly |     |     |     |     |
|     | 210   |     | 215 |     | 220 |
| Arg | Asn Phe Leu Ser Thr Pro Gln Phe Leu Tyr Arg Trp Leu Pro Ser |     |     |     |     |
| 225 |   | 230 |     | 235 | 240 |
| Arg | Arg Gly Gly Val Ser Gly Phe Gly Val Pro Pro Ala Ser Met Arg |     |     |     |     |
|     | 245   |     | 250 |     | 255 |
| Arg | Ala Ala Asp Gln Asn Gly Gly Gly Arg His Asn Trp Gly Gln     |     |     |     |     |
|     | 260   |     | 265 |     | 270 |
| Gly | Phe Arg Leu Gly Asp Gln                                     |     |     |     |     |
|     | 275   |     | 279 |     |     |

<210> 3132  
 <211> 116  
 <212> PRT  
 <213> Homo sapiens

<400> 3132

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Ala | Gly | Trp | Arg | Ala | Leu | Thr | Ala | Pro | Ser | Thr | Ser | Ala | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Arg | Ala | Phe | Gly | Trp | Gln | Ala | Ala | Ala | Arg | Leu | Leu | Val | Phe | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Arg | Gly | Val | Gly | Leu | Gly | Ser | Gly | Ala | Pro | Gly | Ser | Leu | Pro | Cys |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Tyr | Leu | Arg | Met | Asp | Ala | Leu | Ala | Leu | Leu | Gly | Gly | Leu | Val | Asn | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Arg | Leu | Pro | Glu | Arg | Trp | Gly | Pro | Gly | Arg | Phe | Asp | Tyr | Trp | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Ser | His | Gln | Ile | Met | His | Leu | Leu | Ser | Val | Gly | Ser | Ile | Leu | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | His | Ala | Gly | Val | Val | Pro | Asp | Leu | Leu | Trp | Ala | Ala | His | His | Ala |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Pro | Arg | Asp |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     | 115 | 116 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3133  
 <211> 973  
 <212> PRT  
 <213> Homo sapiens

<400> 3133

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Cys | Phe | Lys | Gly | Gln | Lys | Gly | Glu | Gln | Arg | Ser | His | Ala | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Ala | Asn | Lys | Asp | His | Lys | Ala | Lys | Val | Pro | Ser | Pro | Asn | Leu | Tyr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Gln | Leu | Asn | Ala | Leu | Gln | Phe | Thr | Val | Asp | Glu | Arg | Ser | Ile | Leu |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Trp | Leu | Asn | Gln | Phe | Leu | Leu | Asp | Leu | Lys | Gln | Ser | Leu | Asn | Gln | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Ala | Val | Tyr | Lys | Leu | Asn | Asp | Asn | Ser | Lys | Ser | Asp | Glu | His | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Val | Arg | Val | Asp | Gly | Leu | Met | Leu | Lys | Phe | Val | Ile | Pro | Ser | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Lys | Ser | Glu | Cys | His | Gln | Asp | Gln | Pro | Arg | Ala | Ile | Ser | Ile | Gln |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Ser | Glu | Met | Ile | Ala | Thr | Asn | Thr | Arg | His | Cys | Pro | Asn | Cys | Arg |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| His | Ser | Asp | Leu | Glu | Ala | Leu | Phe | Gln | Asp | Phe | Lys | Asp | Cys | Asp | Phe |

|   |  |     |  |     |
|---|--|-----|--|-----|
| 130   |  | 135 |  | 140 |
| Phe Ser Lys Thr Tyr Thr Ser Phe Pro Lys Ser Cys Asp Asn Phe Asn |  |     |  |     |
| 145   |  | 150 |  | 155 |
| Leu Leu His Pro Ile Phe Gln Arg His Ala His Glu Gln Asp Thr Lys |  |     |  | 160 |
|   |  | 165 |  | 170 |
| Met His Glu Ile Tyr Lys Gly Asn Ile Thr Pro Gln Leu Asn Lys Asn |  |     |  | 175 |
|   |  | 180 |  | 185 |
| Thr Leu Lys Thr Ser Ala Ala Thr Asp Val Trp Ala Val Tyr Phe Ser |  |     |  | 190 |
|   |  | 195 |  | 200 |
| Gln Phe Trp Ile Asp Tyr Glu Gly Met Lys Ser Gly Lys Gly Arg Pro |  |     |  | 205 |
|   |  | 210 |  | 215 |
| Ile Ser Phe Val Asp Ser Phe Pro Leu Ser Ile Trp Ile Cys Gln Pro |  |     |  | 220 |
| 225   |  | 230 |  | 235 |
| Thr Arg Tyr Ala Glu Ser Gln Lys Glu Pro Gln Thr Cys Asn Gln Val |  |     |  | 240 |
|   |  | 245 |  | 250 |
| Ser Leu Asn Thr Ser Gln Ser Glu Ser Ser Asp Leu Ala Gly Arg Leu |  |     |  | 255 |
|   |  | 260 |  | 265 |
| Lys Arg Lys Lys Leu Leu Lys Glu Tyr Tyr Ser Thr Glu Ser Glu Pro |  |     |  | 270 |
|   |  | 275 |  | 280 |
| Leu Thr Asn Gly Gly Gln Lys Pro Ser Ser Ser Asp Thr Phe Phe Arg |  |     |  | 285 |
|   |  | 290 |  | 295 |
| Phe Ser Pro Ser Ser Ser Glu Ala Asp Ile His Leu Leu Val His Val |  |     |  | 300 |
| 305   |  | 310 |  | 315 |
| His Lys His Val Ser Met Gln Ile Asn His Tyr Gln Tyr Leu Leu Leu |  |     |  | 320 |
|   |  | 325 |  | 330 |
| Leu Phe Leu His Glu Ser Leu Ile Leu Leu Ser Glu Asn Leu Arg Lys |  |     |  | 335 |
|   |  | 340 |  | 345 |
| Asp Val Glu Ala Val Thr Gly Ser Pro Ala Ser Gln Thr Ser Ile Cys |  |     |  | 350 |
|   |  | 355 |  | 360 |
| Ile Gly Ile Leu Leu Arg Ser Ala Glu Leu Ala Leu Leu Leu His Pro |  |     |  | 365 |
|   |  | 370 |  | 375 |
| Val Asp Gln Ala Asn Thr Leu Lys Ser Pro Val Ser Glu Ser Val Ser |  |     |  | 380 |
| 385   |  | 390 |  | 395 |
| Pro Val Val Pro Asp Tyr Leu Pro Thr Glu Asn Gly Asp Phe Leu Ser |  |     |  | 400 |
|   |  | 405 |  | 410 |
| Ser Lys Arg Lys Gln Ile Ser Arg Asp Ile Asn Arg Ile Arg Ser Val |  |     |  | 415 |
|   |  | 420 |  | 425 |
| Thr Val Asn His Met Ser Asp Asn Arg Ser Met Ser Val Asp Leu Ser |  |     |  | 430 |
|   |  | 435 |  | 440 |
| His Ile Pro Leu Lys Asp Pro Leu Leu Phe Lys Ser Ala Ser Asp Thr |  |     |  | 445 |
|   |  | 450 |  | 455 |
| Asn Leu Gln Lys Gly Ile Ser Phe Met Asp Tyr Leu Ser Asp Lys His |  |     |  | 460 |
| 465   |  | 470 |  | 475 |
| Leu Gly Lys Ile Ser Glu Asp Glu Ser Ser Gly Leu Val Tyr Lys Ser |  |     |  | 480 |
|   |  | 485 |  | 490 |
| Gly Ser Gly Glu Ile Gly Ser Glu Thr Ser Asp Lys Lys Asp Ser Phe |  |     |  | 495 |
|   |  | 500 |  | 505 |
| Tyr Thr Asp Ser Ser Ser Val Leu Asn Tyr Arg Glu Asp Ser Asn Ile |  |     |  | 510 |
|   |  | 515 |  | 520 |
| Leu Ser Phe Asp Ser Asp Gly Asn Gln Asn Ile Leu Ser Ser Thr Leu |  |     |  | 525 |
|   |  | 530 |  | 535 |
| Thr Ser Lys Gly Asn Glu Thr Ile Glu Ser Ile Phe Lys Ala Glu Asp |  |     |  | 540 |
| 545   |  | 550 |  | 555 |
| Leu Leu Pro Glu Ala Ala Ser Leu Ser Glu Asn Leu Asp Ile Ser Lys |  |     |  | 560 |
|   |  | 565 |  | 570 |
| Glu Glu Thr Pro Pro Val Arg Thr Leu Lys Ser Gln Ser Ser Leu Ser |  |     |  | 575 |
|   |  | 580 |  | 585 |
| Gly Lys Pro Lys Glu Arg Cys Pro Pro Asn Leu Ala Pro Leu Cys Val |  |     |  | 590 |
|   |  | 595 |  | 600 |
| Ser Tyr Lys Asn Met Lys Arg Ser Ser Ser Gln Met Ser Leu Asp Thr |  |     |  | 605 |
|   |  | 610 |  | 615 |
| Ile Ser Leu Asp Ser Met Ile Leu Glu Glu Gln Leu Leu Glu Ser Asp |  |     |  | 620 |
| 625   |  | 630 |  | 635 |
| Gly Ser Asp Ser His Met Phe Leu Glu Lys Gly Asn Lys Lys Asn Ser |  |     |  | 640 |

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<210> 3134
<211> 523
<212> PRT
<213> Homo sapiens
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4815

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 100 |     | 105 |     | 110 |
| Lys Val Trp Leu Leu Phe Asp Tyr Ala Glu His Asp Leu Trp His Ile |     |     |     |     |     |
| 115   |     | 120 |     | 125 |     |
| Ile Lys Phe His Arg Ala Ser Lys Ala Asn Lys Lys Pro Met Gln Leu |     |     |     |     |     |
| 130   |     | 135 |     | 140 |     |
| Pro Arg Ser Met Val Lys Ser Leu Leu Tyr Gln Ile Leu Asp Gly Ile |     |     |     |     |     |
| 145   |     | 150 |     | 155 | 160 |
| His Tyr Leu His Ala Asn Trp Val Leu His Arg Asp Leu Lys Pro Ala |     |     |     |     |     |
| 165   |     | 170 |     | 175 |     |
| Asn Ile Leu Val Met Gly Glu Gly Pro Glu Arg Gly Arg Val Lys Ile |     |     |     |     |     |
| 180   |     | 185 |     | 190 |     |
| Ala Asp Met Gly Phe Ala Arg Leu Phe Asn Ser Pro Leu Lys Pro Leu |     |     |     |     |     |
| 195   |     | 200 |     | 205 |     |
| Ala Asp Leu Asp Pro Val Val Val Thr Phe Trp Tyr Arg Ala Pro Glu |     |     |     |     |     |
| 210   |     | 215 |     | 220 |     |
| Leu Leu Leu Gly Ala Arg His Tyr Thr Lys Ala Ile Asp Ile Trp Ala |     |     |     |     |     |
| 225   |     | 230 |     | 235 | 240 |
| Ile Gly Cys Ile Phe Ala Glu Leu Leu Thr Ser Glu Pro Ile Phe His |     |     |     |     |     |
| 245   |     | 250 |     | 255 |     |
| Cys Arg Gln Glu Asp Ile Lys Thr Ser Asn Pro Phe His His Asp Gln |     |     |     |     |     |
| 260   |     | 265 |     | 270 |     |
| Leu Asp Arg Ile Phe Ser Val Met Gly Phe Pro Ala Asp Lys Asp Trp |     |     |     |     |     |
| 275   |     | 280 |     | 285 |     |
| Glu Asp Ile Arg Lys Met Pro Glu Tyr Pro Thr Leu Gln Lys Asp Phe |     |     |     |     |     |
| 290   |     | 295 |     | 300 |     |
| Arg Arg Thr Thr Tyr Ala Asn Ser Ser Leu Ile Lys Tyr Met Glu Lys |     |     |     |     |     |
| 305   |     | 310 |     | 315 | 320 |
| His Lys Val Lys Pro Asp Ser Lys Val Phe Leu Leu Leu Gln Lys Leu |     |     |     |     |     |
| 325   |     | 330 |     | 335 |     |
| Leu Thr Met Asp Pro Thr Lys Arg Ile Thr Ser Glu Gln Ala Leu Gln |     |     |     |     |     |
| 340   |     | 345 |     | 350 |     |
| Asp Pro Tyr Phe Gln Glu Asp Pro Leu Pro Thr Leu Asp Val Phe Ala |     |     |     |     |     |
| 355   |     | 360 |     | 365 |     |
| Gly Cys Gln Ile Pro Tyr Pro Lys Arg Glu Phe Leu Asn Glu Asp Asp |     |     |     |     |     |
| 370   |     | 375 |     | 380 |     |
| Pro Glu Glu Lys Gly Asp Lys Asn Gln Gln Gln Gln Gln Asn Gln His |     |     |     |     |     |
| 385   |     | 390 |     | 395 | 400 |
| Gln Gln Pro Thr Ala Pro Pro Gln Gln Ala Ala Ala Pro Pro Gln Ala |     |     |     |     |     |
| 405   |     | 410 |     | 415 |     |
| Pro Pro Pro Gln Gln Asn Ser Thr Gln Thr Asn Gly Thr Ala Gly Gly |     |     |     |     |     |
| 420   |     | 425 |     | 430 |     |
| Ala Gly Ala Gly Val Gly Gly Thr Gly Ala Gly Leu Gln His Ser Gln |     |     |     |     |     |
| 435   |     | 440 |     | 445 |     |
| Asp Ser Ser Leu Asn Gln Val Pro Pro Asn Lys Lys Pro Arg Leu Gly |     |     |     |     |     |
| 450   |     | 455 |     | 460 |     |
| Pro Ser Gly Ala Asn Ser Gly Gly Pro Val Met Pro Ser Asp Tyr Gln |     |     |     |     |     |
| 465   |     | 470 |     | 475 | 480 |
| His Ser Ser Ser Arg Leu Asn Tyr Gln Ser Ser Val Gln Gly Ser Ser |     |     |     |     |     |
| 485   |     | 490 |     | 495 |     |
| Gln Ser Gln Ser Thr Leu Gly Tyr Ser Ser Ser Ser Gln Gln Ser Ser |     |     |     |     |     |
| 500   |     | 505 |     | 510 |     |
| Gln Tyr His Pro Ser His Gln Ala His Arg Tyr                     |     |     |     |     |     |
| 515   |     | 520 |     | 523 |     |

&lt;210&gt; 3135

&lt;211&gt; 369

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3135

Glu Arg Lys Met Ala Glu Pro Pro Ser Pro Val His Cys Val Ala Ala

|   |   |     |     |
|---|---|-----|-----|
| 1   | 5   | 10  | 15  |
| Ala Ala Pro Thr   | Ala Thr Val Ser Glu Lys Glu Pro Phe Gly Lys Leu |     |     |
| 20  | 25  | 30  |     |
| Gln Leu Ser Ser Arg Asp Pro Pro Gly Ser Leu Ser Ala Lys Lys Val |   |     |     |
| 35  | 40  | 45  |     |
| Arg Thr Glu Glu Lys Lys Ala Pro Arg Arg Val Asn Gly Glu Gly Gly |   |     |     |
| 50  | 55  | 60  |     |
| Ser Gly Gly Asn Ser Arg Gln Leu Gln Pro Pro Ala Ala Pro Ser Pro |   |     |     |
| 65  | 70  | 75  | 80  |
| Gln Ser Tyr Gly Ser Pro Ala Ser Trp Ser Phe Ala Pro Leu Ser Ala |   |     |     |
| 85  | 90  | 95  |     |
| Ala Pro Ser Pro Ser Ser Ser Arg Ser Ser Phe Ser Phe Ser Ala Gly |   |     |     |
| 100   | 105   | 110 |     |
| Thr Ala Val Pro Ser Ser Ala Ser Ala Ser Leu Ser Gln Pro Gly Pro |   |     |     |
| 115   | 120   | 125 |     |
| Arg Lys Leu Leu Val Pro Pro Thr Leu Leu His Ala Gln Pro His His |   |     |     |
| 130   | 135   | 140 |     |
| Leu Leu Leu Pro Ala Ala Ala Ala Ala Ser Ala Asn Ala Lys Ser     |   |     |     |
| 145   | 150   | 155 | 160 |
| Arg Arg Pro Lys Glu Lys Arg Glu Lys Glu Arg Arg Arg His Gly Leu |   |     |     |
| 165   | 170   | 175 |     |
| Gly Gly Ala Arg Glu Ala Gly Gly Ala Ser Arg Glu Glu Asn Gly Glu |   |     |     |
| 180   | 185   | 190 |     |
| Val Lys Pro Leu Pro Arg Asp Lys Ile Lys Asp Lys Ile Lys Glu Arg |   |     |     |
| 195   | 200   | 205 |     |
| Asp Lys Glu Lys Glu Arg Glu Lys Lys Lys His Lys Val Met Asn Glu |   |     |     |
| 210   | 215   | 220 |     |
| Ile Lys Lys Glu Asn Gly Glu Val Lys Ile Leu Leu Lys Ser Gly Lys |   |     |     |
| 225   | 230   | 235 | 240 |
| Glu Lys Pro Lys Thr Asn Ile Glu Asp Leu Gln Ile Lys Lys Val Lys |   |     |     |
| 245   | 250   | 255 |     |
| Lys Lys Lys Lys Lys Lys His Lys Glu Asn Glu Lys Arg Lys Arg Pro |   |     |     |
| 260   | 265   | 270 |     |
| Lys Met Tyr Ser Lys Ser Ile Gln Thr Ile Cys Ser Gly Leu Leu Thr |   |     |     |
| 275   | 280   | 285 |     |
| Asp Val Glu Asp Gln Ala Ala Lys Gly Ile Leu Asn Asp Asn Ile Lys |   |     |     |
| 290   | 295   | 300 |     |
| Asp Tyr Val Gly Lys Asn Leu Asp Thr Lys Asn Tyr Asp Ser Lys Ile |   |     |     |
| 305   | 310   | 315 | 320 |
| Pro Glu Asn Ser Glu Phe Pro Phe Val Ser Leu Lys Glu Pro Arg Val |   |     |     |
| 325   | 330   | 335 |     |
| Gln Asn Asn Leu Lys Arg Leu Asp Thr Leu Glu Phe Lys Gln Leu Ile |   |     |     |
| 340   | 345   | 350 |     |
| His Ile Glu His Gln Pro Asn Gly Gly Ala Ser Val Ile His Cys Leu |   |     |     |
| 355   | 360   | 365 |     |
| Gln   |   |     |     |
| 369   |   |     |     |

&lt;210&gt; 3136

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3136

|   |    |    |    |
|---|----|----|----|
| Thr Ala Ala Met Ser Ile Phe Thr Pro Thr Asn Gln Ile Arg Leu Thr |    |    |    |
| 1   | 5  | 10 | 15 |
| Asn Val Ala Val Val Arg Met Lys Arg Ala Gly Lys Arg Phe Glu Ile |    |    |    |
| 20  | 25 | 30 |    |
| Ala Cys Tyr Lys Asn Lys Val Val Gly Trp Arg Ser Gly Val Glu Lys |    |    |    |
| 35  | 40 | 45 |    |
| Asp Leu Asp Glu Val Leu Gln Thr His Ser Val Phe Val Asn Val Ser |    |    |    |

|                     |                                 |                     |
|---------------------|---------------------------------|---------------------|
| 50                  | 55                              | 60                  |
| Lys Gly Gln Val Ala | Lys Lys Glu Asp Leu Ile         | Ser Ala Phe Gly Thr |
| 65                  | 70                              | 75                  |
| Asp Asp Gln Thr Glu | Ile Cys Lys Gln Ile Leu Thr     | Lys Gly Glu Val     |
| 85                  | 90                              | 95                  |
| Gln Val Ser Asp Lys | Glu Arg His Thr Gln Leu Glu     | Gln Met Phe Arg     |
| 100                 | 105                             | 110                 |
| Asp Ile Ala Thr Ile | Val Ala Asp Lys Cys Val Asn Pro | Glu Thr Lys         |
| 115                 | 120                             | 125                 |
| Arg Pro Tyr Thr Val | Ile Leu Ile Glu Arg Ala Met Lys | Asp Ile His         |
| 130                 | 135                             | 140                 |
| Tyr Ser Val Lys Thr | Asn Lys Ser Thr Lys Gln Gln     | Ala Leu Glu Val     |
| 145                 | 150                             | 155                 |
| Ile Lys Gln Leu Lys | Glu Lys Met Lys Ile Glu Arg     | Ala His Met Arg     |
| 165                 | 170                             | 175                 |
| Leu Arg Phe Ile Leu | Pro Val Asn Glu Gly Lys Lys     | Leu Lys Glu Lys     |
| 180                 | 185                             | 190                 |
| Leu Lys Pro Leu Ile | Lys Val Ile Glu Ser Glu Asp     | Tyr Gly Gln Gln     |
| 195                 | 200                             | 205                 |
| Leu Glu Ile Val Cys | Leu Ile Asp Pro Gly Cys Phe     | Arg Glu Ile Asp     |
| 210                 | 215                             | 220                 |
| Glu Leu Ile Lys Lys | Glu Thr Lys Gly Lys Gly Ser     | Leu Glu Val Leu     |
| 225                 | 230                             | 235                 |
| Asn Leu Lys Asp Val | Glu Glu Gly Asp Glu Lys Phe     | Glu                 |
| 245                 | 250                             | 253                 |

&lt;210&gt; 3137

&lt;211&gt; 1047

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3137

|                     |                         |                         |
|---------------------|-------------------------|-------------------------|
| Met Val Glu Gly Lys | Arg His Val Leu His     | Gly Gly Arg Gln Glu Arg |
| 1                   | 5                       | 10                      |
| Met Arg Ala Lys Gln | Lys Gly Lys Pro Leu Ile | Lys Ser Ser Asp Leu     |
| 20                  | 25                      | 30                      |
| Val Arg Leu Ile His | Tyr His His Asn Ser Ser | Pro Leu His Lys Gln     |
| 35                  | 40                      | 45                      |
| Ser Ser Gly Pro Ser | Ser Ser Pro Ala Ala Ala | Ala Ala Pro Glu Lys     |
| 50                  | 55                      | 60                      |
| Pro Gly Pro Lys Ala | Ala Glu Val Gly Asp Asp | Phe Leu Gly Asp Phe     |
| 65                  | 70                      | 75                      |
| Val Val Gly Glu Arg | Val Trp Val Asn Gly Val | Lys Pro Gly Val Val     |
| 85                  | 90                      | 95                      |
| Gln Tyr Leu Gly Glu | Thr Gln Phe Ala Pro Gly | Gln Trp Ala Gly Val     |
| 100                 | 105                     | 110                     |
| Val Leu Asp Asp Pro | Val Gly Lys Asn Asp Gly | Ala Val Gly Gly Val     |
| 115                 | 120                     | 125                     |
| Arg Tyr Phe Glu Cys | Pro Ala Leu Gln Gly Ile | Phe Thr Arg Pro Ser     |
| 130                 | 135                     | 140                     |
| Lys Leu Thr Arg Gln | Pro Thr Ala Glu Gly Ser | Gly Ser Asp Ala His     |
| 145                 | 150                     | 155                     |
| Ser Val Glu Ser Leu | Thr Ala Gln Asn Leu Ser | Leu His Ser Gly Thr     |
| 165                 | 170                     | 175                     |
| Ala Thr Pro Pro Leu | Thr Ser Arg Val Ile Pro | Leu Arg Glu Ser Val     |
| 180                 | 185                     | 190                     |
| Leu Asn Ser Ser Val | Lys Thr Gly Asn Glu Ser | Gly Ser Asn Leu Ser     |
| 195                 | 200                     | 205                     |
| Asp Ser Gly Ser Val | Lys Arg Gly Glu Lys Asp | Leu Arg Leu Gly Asp     |
| 210                 | 215                     | 220                     |
| Arg Val Leu Val Gly | Gly Thr Lys Thr Gly Val | Val Arg Tyr Val Gly     |



|   |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|---|---|--|--|--|-----|--|--|--|--|-----|--|--|--|--|-----|
| 225   |   |  |  |  | 230 |  |  |  |  | 235 |  |  |  |  | 240 |
| Glu Thr Asp Phe   | Ala Lys Gly Glu Trp Cys Gly Val Glu Leu Asp Glu |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 245   |  |  |  | 250 |  |  |  |  |     |  |  |  |  | 255 |
| Pro Leu Gly Lys Asn Asp Gly Ala Val Ala Gly Thr Arg Tyr Phe Gln |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 260   |  |  |  | 265 |  |  |  |  |     |  |  |  |  | 270 |
| Cys Pro Pro Lys Phe Gly Leu Phe Ala Pro Ile His Lys Val Ile Arg |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 275   |  |  |  | 280 |  |  |  |  |     |  |  |  |  | 285 |
| Ile Gly Phe Pro Ser Thr Ser Pro Ala Lys Ala Lys Lys Thr Lys Arg |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 290   |  |  |  | 295 |  |  |  |  |     |  |  |  |  | 300 |
| Met Ala Met Gly Val Ser Ala Leu Thr His Ser Pro Ser Ser Ser Ser |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 305   | 310   |  |  |  | 315 |  |  |  |  |     |  |  |  |  | 320 |
| Ile Ser Ser Val Ser Ser Val Ala Ser Ser Val Gly Gly Arg Pro Ser |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 325   |  |  |  | 330 |  |  |  |  |     |  |  |  |  | 335 |
| Arg Ser Gly Leu Leu Thr Glu Thr Ser Ser Arg Tyr Ala Arg Lys Ile |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 340   |  |  |  | 345 |  |  |  |  |     |  |  |  |  | 350 |
| Ser Gly Thr Thr Ala Leu Gln Glu Ala Leu Lys Glu Lys Gln Gln His |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 355   |  |  |  | 360 |  |  |  |  |     |  |  |  |  | 365 |
| Ile Glu Gln Leu Leu Ala Glu Arg Asp Leu Glu Arg Ala Glu Val Ala |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 370   |  |  |  | 375 |  |  |  |  |     |  |  |  |  | 380 |
| Lys Ala Thr Ser His Ile Cys Glu Val Glu Lys Glu Ile Ala Leu Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 385   | 390   |  |  |  | 395 |  |  |  |  |     |  |  |  |  | 400 |
| Lys Ala Gln His Glu Gln Tyr Val Ala Glu Ala Glu Glu Lys Leu Gln |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 405   |  |  |  | 410 |  |  |  |  |     |  |  |  |  | 415 |
| Arg Ala Arg Leu Leu Val Glu Ser Val Arg Lys Glu Lys Val Asp Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 420   |  |  |  | 425 |  |  |  |  |     |  |  |  |  | 430 |
| Ser Asn Gln Leu Glu Glu Glu Arg Arg Lys Val Glu Asp Leu Gln Phe |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 435   |  |  |  | 440 |  |  |  |  |     |  |  |  |  | 445 |
| Arg Val Glu Glu Glu Ser Ile Thr Lys Gly Asp Leu Glu Thr Gln Thr |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 450   |  |  |  | 455 |  |  |  |  |     |  |  |  |  | 460 |
| Gln Leu Glu His Ala Arg Ile Gly Glu Leu Glu Gln Ser Leu Leu Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 465   | 470   |  |  |  | 475 |  |  |  |  |     |  |  |  |  | 480 |
| Glu Lys Ala Gln Ala Glu Arg Leu Leu Arg Glu Leu Ala Asp Asn Arg |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 485   |  |  |  | 490 |  |  |  |  |     |  |  |  |  | 495 |
| Leu Thr Thr Val Ala Glu Lys Ser Arg Val Leu Gln Leu Glu Glu     |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 500   |  |  |  | 505 |  |  |  |  |     |  |  |  |  | 510 |
| Leu Thr Leu Arg Arg Gly Glu Ile Glu Glu Leu Gln Gln Cys Leu Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 515   |  |  |  | 520 |  |  |  |  |     |  |  |  |  | 525 |
| His Ser Gly Pro Pro Pro Pro Asp His Pro Asp Ala Ala Glu Ile Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 530   |  |  |  | 535 |  |  |  |  |     |  |  |  |  | 540 |
| Arg Leu Arg Glu Arg Leu Leu Ser Ala Ser Lys Glu His Gln Arg Glu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 545   | 550   |  |  |  | 555 |  |  |  |  |     |  |  |  |  | 560 |
| Ser Gly Val Leu Arg Asp Lys Tyr Glu Lys Ala Leu Lys Ala Tyr Gln |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 565   |  |  |  | 570 |  |  |  |  |     |  |  |  |  | 575 |
| Ala Glu Val Asp Lys Leu Arg Ala Ala Asn Glu Lys Tyr Ala Gln Glu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 580   |  |  |  | 585 |  |  |  |  |     |  |  |  |  | 590 |
| Val Ala Gly Leu Lys Asp Lys Val Gln Gln Ala Thr Ser Glu Asn Met |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 595   |  |  |  | 600 |  |  |  |  |     |  |  |  |  | 605 |
| Gly Leu Met Asp Asn Trp Lys Ser Lys Leu Asp Ser Leu Ala Ser Asp |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 610   |  |  |  | 615 |  |  |  |  |     |  |  |  |  | 620 |
| His Gln Lys Ser Leu Glu Asp Leu Lys Ala Thr Leu Asn Ser Gly Pro |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 625   | 630   |  |  |  | 635 |  |  |  |  |     |  |  |  |  | 640 |
| Gly Ala Gln Gln Lys Glu Ile Gly Glu Leu Lys Ala Val Met Glu Gly |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 645   |  |  |  | 650 |  |  |  |  |     |  |  |  |  | 655 |
| Ile Lys Met Glu His Gln Leu Glu Leu Gly Asn Leu Gln Ala Lys His |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 660   |  |  |  | 665 |  |  |  |  |     |  |  |  |  | 670 |
| Asp Leu Glu Thr Ala Met His Val Lys Glu Lys Glu Ala Leu Arg Glu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 675   |  |  |  | 680 |  |  |  |  |     |  |  |  |  | 685 |
| Lys Leu Gln Glu Ala Gln Glu Glu Leu Ala Gly Leu Gln Arg His Trp |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 690   |  |  |  | 695 |  |  |  |  |     |  |  |  |  | 700 |
| Arg Ala Gln Leu Glu Val Gln Ala Ser Gln His Arg Leu Glu Leu Gln |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
| 705   | 710   |  |  |  | 715 |  |  |  |  |     |  |  |  |  | 720 |
| Glu Ala Gln Asp Gln Arg Arg Asp Ala Glu Leu Arg Val His Glu Leu |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |
|   | 725   |  |  |  | 730 |  |  |  |  |     |  |  |  |  | 735 |
| Glu Lys Leu Asp Val Glu Tyr Arg Gly Gln Ala Gln Ala Ile Glu Phe |   |  |  |  |     |  |  |  |  |     |  |  |  |  |     |

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<210> 3138
<211> 796
<212> PRT
<213> Homo sapiens
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4820

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Leu Val Leu Ala Gly Ile Pro His Gly Met Arg Pro Gln Leu Trp Met |     |     |
| 130   | 135 | 140 |
| Arg Leu Ser Gly Ala Leu Gln Lys Lys Arg Asn Ser Glu Leu Ser Tyr |     |     |
| 145   | 150 | 155 |
| Arg Glu Ile Val Lys Asn Ser Ser Asn Asp Glu Thr Ile Ala Ala Lys |     |     |
| 165   | 170 | 175 |
| Gln Ile Glu Lys Asp Leu Leu Arg Thr Met Pro Ser Asn Ala Cys Phe |     |     |
| 180   | 185 | 190 |
| Ala Ser Met Gly Ser Ile Gly Val Pro Arg Leu Arg Arg Val Leu Arg |     |     |
| 195   | 200 | 205 |
| Ala Leu Ala Trp Leu Tyr Pro Glu Ile Gly Tyr Cys Gln Gly Thr Gly |     |     |
| 210   | 215 | 220 |
| Met Val Ala Ala Cys Leu Leu Phe Leu Glu Glu Glu Asp Ala Phe     |     |     |
| 225   | 230 | 235 |
| Trp Met Met Ser Ala Ile Ile Glu Asp Leu Leu Pro Ala Ser Tyr Phe |     |     |
| 245   | 250 | 255 |
| Ser Thr Thr Leu Leu Gly Val Gln Thr Asp Gln Arg Val Leu Arg His |     |     |
| 260   | 265 | 270 |
| Leu Ile Val Gln Tyr Leu Pro Arg Leu Asp Lys Leu Leu Gln Glu His |     |     |
| 275   | 280 | 285 |
| Asp Ile Glu Leu Ser Leu Ile Thr Leu His Trp Phe Leu Thr Ala Phe |     |     |
| 290   | 295 | 300 |
| Ala Ser Val Val Asp Ile Lys Leu Leu Leu Arg Ile Trp Asp Leu Phe |     |     |
| 305   | 310 | 315 |
| Phe Tyr Glu Gly Ser Arg Val Leu Phe Gln Leu Thr Leu Gly Met Leu |     |     |
| 325   | 330 | 335 |
| His Leu Lys Glu Glu Glu Leu Ile Gln Ser Glu Asn Ser Ala Ser Ile |     |     |
| 340   | 345 | 350 |
| Phe Asn Thr Leu Ser Asp Ile Pro Ser Gln Met Glu Asp Ala Glu Leu |     |     |
| 355   | 360 | 365 |
| Leu Leu Gly Val Ala Met Arg Leu Ala Gly Ser Leu Thr Asp Val Ala |     |     |
| 370   | 375 | 380 |
| Val Glu Thr Gln Arg Arg Lys His Leu Ala Tyr Leu Ile Ala Asp Gln |     |     |
| 385   | 390 | 395 |
| Gly Gln Leu Leu Gly Ala Gly Thr Leu Thr Asn Leu Ser Gln Val Val |     |     |
| 405   | 410 | 415 |
| Arg Arg Arg Thr Gln Arg Arg Lys Ser Thr Ile Thr Ala Leu Leu Phe |     |     |
| 420   | 425 | 430 |
| Gly Glu Asp Asp Leu Glu Ala Leu Lys Ala Lys Asn Ile Lys Gln Thr |     |     |
| 435   | 440 | 445 |
| Glu Leu Val Ala Asp Leu Arg Glu Ala Ile Leu Arg Val Ala Arg His |     |     |
| 450   | 455 | 460 |
| Phe Gln Cys Thr Asp Pro Lys Asn Cys Ser Val Val Ser Arg Gln Leu |     |     |
| 465   | 470 | 475 |
| Pro Gly Leu Leu Pro Asn Thr Ala Leu Thr Pro Pro Thr Pro Leu Val |     |     |
| 485   | 490 | 495 |
| Gly Leu Cys Ser Leu Trp Gln Glu Leu Thr Pro Asp Tyr Ser Met Glu |     |     |
| 500   | 505 | 510 |
| Ser His Gln Arg Asp His Glu Asn Tyr Val Ala Cys Ser Arg Ser His |     |     |
| 515   | 520 | 525 |
| Arg Arg Arg Ala Lys Ala Leu Leu Asp Phe Glu Arg His Asp Asp Asp |     |     |
| 530   | 535 | 540 |
| Glu Leu Gly Phe Arg Lys Asn Asp Ile Ile Thr Ile Val Ser Gln Lys |     |     |
| 545   | 550 | 555 |
| Asp Glu His Cys Trp Val Gly Glu Leu Asn Gly Leu Arg Gly Trp Phe |     |     |
| 565   | 570 | 575 |
| Pro Ala Lys Phe Val Glu Val Leu Asp Glu Arg Ser Lys Glu Tyr Ser |     |     |
| 580   | 585 | 590 |
| Ile Ala Gly Asp Asp Ser Val Thr Glu Gly Val Thr Asp Leu Val Arg |     |     |
| 595   | 600 | 605 |
| Gly Thr Leu Cys Pro Ala Leu Lys Ala Leu Phe Glu His Gly Leu Lys |     |     |
| 610   | 615 | 620 |
| Lys Pro Ser Leu Leu Gly Gly Ala Cys His Pro Trp Leu Phe Ile Glu |     |     |

|   |   |     |     |     |         |     |
|---|---|-----|-----|-----|---------|-----|
| 625                                     |   | 630 |     | 635 |         | 640 |
| Glu Ala Ala Gly Arg                     | Glu Val Glu Arg Asp Phe Ala Ser Val Tyr Ser |     |     |     |         |     |
|   | 645   |     | 650 |     | 655     |     |
| Arg Leu Val Leu Cys Lys Thr Phe Arg     | Leu Asp Glu Asp Gly Lys Val                 |     |     |     |         |     |
|   | 660   |     | 665 |     | 670     |     |
| Leu Thr Pro Glu Glu Leu Leu Tyr Arg     | Ala Val Gln Ser Val Asn Val                 |     |     |     |         |     |
|   | 675   |     | 680 |     | 685     |     |
| Thr His Asp Ala Val His Ala Gln Met Asp | Val Lys Leu Arg Ser Leu                     |     |     |     |         |     |
|   | 690   |     | 695 |     | 700     |     |
| Ile Cys Val Gly Leu Asn Glu Gln Val Leu | His Leu Trp Leu Glu Val                     |     |     |     |         |     |
|   | 705   |     | 710 |     | 715     |     |
| Leu Cys Ser Ser Leu Pro Thr Val Glu Lys | Trp Tyr Gln Pro Trp Ser                     |     |     |     |         |     |
|   | 725   |     | 730 |     | 735     |     |
| Phe Leu Arg Ser Pro Gly Trp Val Gln Ile | Lys Cys Glu Leu Arg Val                     |     |     |     |         |     |
|   | 740   |     | 745 |     | 750     |     |
| Leu Cys Cys Phe Ala Phe Ser Leu Ser     | Gln Asp Trp Glu Leu Pro Ala                 |     |     |     |         |     |
|   | 755   |     | 760 |     | 765     |     |
| Lys Arg Glu Ala Gln Gln Pro Leu Lys Glu | Gly Val Arg Asp Met Leu                     |     |     |     |         |     |
|   | 770   |     | 775 |     | 780     |     |
| Val Lys His His Leu Phe Ser Trp Asp     | Val Asp Gly                                 |     |     |     |         |     |
|   | 785   |     | 790 |     | 795 796 |     |

&lt;210&gt; 3139

&lt;211&gt; 796

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3139

|                 |   |
|-----------------|---|
| Gln Asp Arg Arg | Leu Leu Arg Leu Glu Leu Gln Lys Thr Cys Gln Pro |
| 1               | 5 10 15   |
| Thr Ser Thr Met | Ser Gly Ser His Thr Pro Ala Cys Gly Pro Phe Ser |
|                 | 20 25 30  |
| Ala Leu Thr Pro | Ser Ile Trp Pro Gln Glu Ile Leu Ala Lys Tyr Thr |
|                 | 35 40 45  |
| Gln Lys Glu Glu | Ser Ala Glu Gln Pro Glu Phe Tyr Tyr Asp Glu Phe |
|                 | 50 55 60  |
| Gly Phe Arg Val | Tyr Lys Glu Glu Gly Asp Glu Pro Gly Ser Ser Leu |
|                 | 65 70 75 80                                     |
| Leu Ala Asn Ser | Pro Leu Met Glu Asp Ala Pro Gln Arg Leu Arg Trp |
|                 | 85 90 95  |
| Gln Ala His Leu | Glu Phe Thr His Asn His Asp Val Gly Asp Leu Thr |
|                 | 100 105 110                                     |
| Trp Asp Lys Ile | Ala Val Ser Leu Pro Arg Ser Glu Lys Leu Arg Ser |
|                 | 115 120 125                                     |
| Leu Val Leu Ala | Gly Ile Pro His Gly Met Arg Pro Gln Leu Trp Met |
|                 | 130 135 140                                     |
| Arg Leu Ser Gly | Ala Leu Gln Lys Lys Arg Asn Ser Glu Leu Ser Tyr |
|                 | 145 150 155 160                                 |
| Arg Glu Ile Val | Lys Asn Ser Ser Asn Asp Glu Thr Ile Ala Ala Lys |
|                 | 165 170 175                                     |
| Gln Ile Glu Lys | Asp Leu Leu Arg Thr Met Pro Ser Asn Ala Cys Phe |
|                 | 180 185 190                                     |
| Ala Ser Met Gly | Ser Ile Gly Val Pro Arg Leu Arg Arg Val Leu Arg |
|                 | 195 200 205                                     |
| Ala Leu Ala Trp | Leu Tyr Pro Glu Ile Gly Tyr Cys Gln Gly Thr Gly |
|                 | 210 215 220                                     |
| Met Val Ala Ala | Cys Leu Leu Leu Phe Leu Glu Glu Glu Asp Ala Phe |
|                 | 225 230 235 240                                 |
| Trp Met Met Ser | Ala Ile Ile Glu Asp Leu Leu Pro Ala Ser Tyr Phe |
|                 | 245 250 255                                     |
| Ser Thr Thr Leu | Leu Gly Val Gln Thr Asp Gln Arg Val Leu Arg His |

4823

|     |                     |                 |         |         |     |
|-----|---------------------|-----------------|---------|---------|-----|
|     | 770                 |                 | 775     |         | 780 |
| Val | Lys His His Leu Phe | Ser Trp Asp Val | Asp Gly |         |     |
| 785 |                     | 790             |         | 795 796 |     |

<210> 3140  
 <211> 1646  
 <212> PRT  
 <213> Homo sapiens

<400> 3140

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ala | Ala | Leu | Gly | Ala | Ser | Leu | Ala | Ile | Pro | Arg | Pro | Gly | Leu | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Val | His | Gly | Arg | Gly | Pro | Gly | Thr | Leu | Ser | Gly | Arg | Ala | Met | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ala | Glu | Pro | Arg | Ala | Arg | Pro | Glu | Arg | Leu | Ala | Glu | Ala | Glu | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ala | Ala | Asp | Gly | Gly | Arg | Leu | Val | Glu | Val | Gln | Leu | Ser | Gly | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Pro | Trp | Gly | Phe | Thr | Leu | Lys | Gly | Gly | Arg | Glu | His | Gly | Glu | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Val | Ile | Thr | Lys | Ile | Glu | Glu | Gly | Ser | Lys | Ala | Ala | Ala | Val | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Leu | Leu | Ala | Gly | Asp | Glu | Ile | Val | Gly | Ile | Asn | Asp | Ile | Gly | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Gly | Phe | Arg | Gln | Glu | Ala | Ile | Cys | Leu | Val | Lys | Gly | Ser | His | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Leu | Lys | Leu | Val | Val | Lys | Arg | Arg | Ser | Glu | Leu | Gly | Trp | Arg | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| His | Ser | Trp | His | Ala | Thr | Lys | Phe | Ser | Asp | Ser | His | Pro | Glu | Leu | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Ser | Pro | Phe | Thr | Ser | Thr | Ser | Gly | Cys | Pro | Ser | Trp | Ser | Gly | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| His | His | Ala | Ser | Ser | Ser | Ser | His | Asp | Leu | Ser | Ser | Ser | Trp | Glu | Gln |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Asn | Leu | Gln | Arg | Thr | Leu | Asp | His | Phe | Ser | Ser | Leu | Gly | Ser | Val |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Asp | Ser | Leu | Asp | His | Pro | Ser | Ser | Arg | Leu | Ser | Val | Ala | Lys | Ser | Asn |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Ser | Ser | Ile | Asp | His | Leu | Gly | Ser | His | Ser | Lys | Arg | Asp | Ser | Ala | Tyr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Ser | Phe | Ser | Thr | Ser | Ser | Ser | Thr | Pro | Asp | His | Thr | Leu | Ser | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Asp | Thr | Ser | Ser | Ala | Glu | Asn | Ile | Leu | Tyr | Thr | Val | Gly | Leu | Trp |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Ala | Pro | Arg | Gln | Gly | Gly | Arg | Gln | Ala | Gln | Ala | Ala | Gly | Asp | Pro |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Gly | Ser | Glu | Glu | Lys | Leu | Ser | Cys | Phe | Pro | Pro | Arg | Val | Pro | Gly |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asp | Ser | Gly | Lys | Gly | Pro | Arg | Pro | Glu | Tyr | Asn | Ala | Glu | Pro | Lys | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ala | Ala | Pro | Gly | Arg | Ser | Asn | Phe | Gly | Pro | Val | Trp | Tyr | Val | Pro | Asp |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Lys | Lys | Ala | Pro | Ser | Ser | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Leu | Arg |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ser | Asp | Ser | Phe | Ala | Ala | Thr | Lys | Ser | His | Glu | Lys | Ala | Gln | Gly | Pro |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Phe | Ser | Glu | Ala | Ala | Ala | Ala | Gln | His | Phe | Thr | Ala | Leu | Ala | Gln |
|     | 370 |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |
| Ala | Gln | Pro | Arg | Gly | Asp | Arg | Arg | Pro | Glu | Leu | Thr | Asp | Arg | Pro | Trp |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Ser | Ala | His | Pro | Gly | Ser | Leu | Gly | Lys | Gly | Ser | Gly | Gly | Pro | Gly |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |  |  |
| Cys | Pro | Gln | Glu | Ala | His | Ala | Asp | Gly | Ser | Trp | Pro | Pro | Ser | Lys | Asp |  |  |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |  |  |
| Gly | Ala | Ser | Ser | Arg | Leu | Gln | Ala | Ser | Leu | Ser | Ser | Ser | Asp | Val | Arg |  |  |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |  |  |
| Phe | Pro | Gln | Ser | Pro | His | Ser | Gly | Arg | His | Pro | Pro | Leu | Tyr | Ser | Asp |  |  |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |  |  |
| His | Ser | Pro | Leu | Cys | Ala | Asp | Ser | Leu | Gly | Gln | Glu | Pro | Gly | Ala | Ala |  |  |  |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     |     | 480 |  |  |  |  |
| Ser | Phe | Gln | Asn | Asp | Ser | Pro | Pro | Gln | Val | Arg | Gly | Leu | Ser | Ser | Cys |  |  |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |  |  |  |  |
| Asp | Gln | Lys | Leu | Gly | Ser | Gly | Trp | Gln | Gly | Pro | Arg | Pro | Cys | Val | Gln |  |  |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |  |  |
| Gly | Asp | Leu | Gln | Ala | Ala | Gln | Leu | Trp | Ala | Gly | Cys | Trp | Pro | Ser | Asp |  |  |  |  |
|     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |  |  |  |  |
| Thr | Ala | Leu | Gly | Ala | Leu | Glu | Ser | Leu | Pro | Pro | Pro | Thr | Val | Gly | Gln |  |  |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     |     | 540 |     |     |     |  |  |  |  |
| Ser | Pro | Arg | His | His | Leu | Pro | Gln | Pro | Glu | Gly | Pro | Pro | Asp | Ala | Arg |  |  |  |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |  |  |  |
| Glu | Thr | Gly | Arg | Cys | Tyr | Pro | Leu | Asp | Lys | Gly | Ala | Glu | Gly | Cys | Ser |  |  |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |  |  |
| Ala | Gly | Ala | Gln | Glu | Pro | Pro | Arg | Ala | Ser | Arg | Ala | Glu | Lys | Ala | Ser |  |  |  |  |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |  |  |  |  |
| Gln | Arg | Leu | Ala | Ala | Ser | Ile | Thr | Trp | Ala | Asp | Gly | Glu | Ser | Ser | Arg |  |  |  |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |  |  |  |
| Ile | Cys | Pro | Gln | Glu | Thr | Pro | Leu | Leu | His | Ser | Leu | Thr | Gln | Glu | Gly |  |  |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |  |  |
| Lys | Arg | Arg | Pro | Glu | Ser | Ser | Pro | Glu | Asp | Ser | Ala | Thr | Arg | Pro | Pro |  |  |  |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     |     | 640 |     |  |  |  |  |
| Pro | Phe | Asp | Ala | His | Val | Gly | Lys | Pro | Thr | Arg | Arg | Ser | Asp | Arg | Phe |  |  |  |  |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |  |  |  |  |
| Ala | Thr | Thr | Leu | Arg | Asn | Glu | Ile | Gln | Met | His | Arg | Ala | Lys | Leu | Gln |  |  |  |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |  |  |
| Lys | Ser | Arg | Ser | Thr | Val | Ala | Leu | Thr | Ala | Ala | Gly | Glu | Ala | Glu | Asp |  |  |  |  |
|     | 675 |     |     |     |     | 680 |     |     |     |     |     | 685 |     |     |     |  |  |  |  |
| Gly | Thr | Gly | Arg | Trp | Arg | Ala | Gly | Leu | Gly | Gly | Gly | Thr | Gln | Glu | Gly |  |  |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |  |  |
| Pro | Leu | Ala | Gly | Thr | Tyr | Lys | Asp | His | Leu | Lys | Glu | Ala | Gln | Ala | Arg |  |  |  |  |
| 705 |     |     |     |     | 710 |     |     |     | 715 |     |     |     |     | 720 |     |  |  |  |  |
| Val | Leu | Arg | Ala | Thr | Ser | Phe | Lys | Arg | Arg | Asp | Leu | Asp | Pro | Asn | Pro |  |  |  |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |  |  |  |  |
| Gly | Asp | Leu | Tyr | Pro | Glu | Ser | Leu | Glu | His | Arg | Met | Gly | Asp | Pro | Asp |  |  |  |  |
|     | 740 |     |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |  |  |
| Thr | Val | Pro | His | Phe | Trp | Glu | Ala | Gly | Leu | Ala | Gln | Pro | Pro | Ser | Ser |  |  |  |  |
|     | 755 |     |     |     |     | 760 |     |     |     |     |     | 765 |     |     |     |  |  |  |  |
| Thr | Ser | Gly | Gly | Pro | His | Pro | Pro | Arg | Ile | Gly | Gly | Arg | Arg | Arg | Phe |  |  |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     |     | 780 |     |     |     |  |  |  |  |
| Thr | Ala | Glu | Gln | Lys | Leu | Lys | Ser | Tyr | Ser | Glu | Pro | Glu | Lys | Met | Asn |  |  |  |  |
| 785 |     |     |     |     | 790 |     |     |     | 795 |     |     |     |     | 800 |     |  |  |  |  |
| Glu | Val | Gly | Leu | Thr | Arg | Gly | Tyr | Ser | Pro | His | Gln | His | Pro | Arg | Thr |  |  |  |  |
|     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |     |  |  |  |  |
| Ser | Glu | Asp | Thr | Val | Gly | Thr | Phe | Ala | Asp | Arg | Trp | Lys | Phe | Phe | Glu |  |  |  |  |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |  |  |
| Glu | Thr | Ser | Lys | Pro | Val | Pro | Gln | Arg | Pro | Ala | Gln | Lys | Gln | Ala | Leu |  |  |  |  |
|     | 835 |     |     |     |     | 840 |     |     |     |     |     | 845 |     |     |     |  |  |  |  |
| His | Gly | Ile | Pro | Arg | Asp | Lys | Pro | Glu | Arg | Pro | Arg | Thr | Ala | Gly | Arg |  |  |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     |     | 860 |     |     |     |  |  |  |  |
| Thr | Cys | Glu | Gly | Thr | Glu | Pro | Trp | Ser | Arg | Thr | Thr | Ser | Leu | Gly | Asp |  |  |  |  |
| 865 |     |     |     |     | 870 |     |     |     | 875 |     |     |     |     | 880 |     |  |  |  |  |
| Ser | Leu | Asn | Ala | His | Ser | Ala | Ala | Glu | Lys | Ala | Gly | Thr | Ser | Asp | Leu |  |  |  |  |
|     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |     |  |  |  |  |
| Pro | Arg | Arg | Leu | Gly | Thr | Phe | Ala | Glu | Tyr | Gln | Ala | Ser | Trp | Lys | Glu |  |  |  |  |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |  |  |
| Gln | Arg | Lys | Pro | Leu | Glu | Ala | Arg | Ser | Ser | Gly | Arg | Cys | His | Ser | Ala |  |  |  |  |

915 920 925  
Asp Asp Ile Leu Asp Val Ser Leu Asp Pro Gln Glu Arg Pro Gln His  
930 935 940  
Val His Gly Arg Ser Arg Ser Ser Pro Ser Thr Asp His Tyr Lys Gln  
945 950 955 960  
Glu Ala Ser Val Glu Leu Arg Arg Gln Ala Gly Asp Pro Gly Glu Pro  
965 970 975  
Arg Glu Glu Leu Pro Ser Ala Val Arg Ala Glu Glu Gly Gln Ser Thr  
980 985 990  
Pro Arg Gln Ala Asp Ala Gln Cys Arg Glu Gly Ser Pro Gly Ser Gln  
995 1000 1005  
Gln His Pro Pro Ser Gln Lys Ala Pro Asn Pro Pro Thr Phe Ser Glu  
1010 1015 1020  
Leu Ser His Cys Arg Gly Ala Pro Glu Leu Pro Arg Glu Gly Arg Gly  
1025 1030 1035 1040  
Arg Ala Gly Thr Leu Pro Arg Asp Tyr Arg Tyr Ser Glu Glu Ser Thr  
1045 1050 1055  
Pro Ala Asp Leu Gly Pro Arg Ala Gln Ser Pro Gly Ser Pro Leu His  
1060 1065 1070  
Ala Arg Gly Gln Asp Ser Trp Pro Val Ser Ser Ala Leu Leu Ser Lys  
1075 1080 1085  
Arg Pro Ala Pro Gln Arg Pro Pro Pro Pro Lys Arg Glu Pro Arg Arg  
1090 1095 1100  
Tyr Arg Ala Thr Asp Gly Ala Pro Ala Asp Ala Pro Val Gly Val Leu  
1105 1110 1115 1120  
Gly Arg Pro Phe Pro Thr Pro Ser Pro Ala Ser Leu Asp Val Tyr Val  
1125 1130 1135  
Ala Arg Leu Ser Leu Ser His Ser Pro Ser Val Phe Ser Ser Ala Gln  
1140 1145 1150  
Pro Gln Asp Thr Pro Lys Ala Thr Val Cys Glu Arg Gly Ser Gln His  
1155 1160 1165  
Val Ser Gly Asp Ala Ser Arg Pro Leu Pro Glu Ala Leu Leu Pro Pro  
1170 1175 1180  
Lys Gln Gln His Leu Arg Leu Gln Thr Ala Thr Met Glu Thr Ser Arg  
1185 1190 1195 1200  
Ser Pro Ser Pro Gln Phe Ala Pro Gln Lys Leu Thr Asp Lys Pro Pro  
1205 1210 1215  
Leu Leu Ile Gln Asp Glu Asp Ser Thr Arg Ile Glu Arg Val Met Asp  
1220 1225 1230  
Asn Asn Thr Thr Val Lys Met Val Pro Ile Lys Ile Val His Ser Glu  
1235 1240 1245  
Ser Gln Pro Glu Lys Glu Ser Arg Gln Ser Leu Ala Cys Pro Ala Glu  
1250 1255 1260  
Pro Pro Ala Leu Pro His Gly Leu Glu Lys Asp Gln Ile Lys Thr Leu  
1265 1270 1275 1280  
Ser Thr Ser Glu Gln Phe Tyr Ser Arg Phe Cys Leu Tyr Thr Arg Gln  
1285 1290 1295  
Gly Ala Glu Pro Glu Ala Pro His Arg Ala Gln Pro Ala Glu Pro Gln  
1300 1305 1310  
Pro Leu Gly Thr Gln Val Pro Pro Glu Lys Asp Arg Cys Thr Ser Pro  
1315 1320 1325  
Pro Gly Leu Ser Tyr Met Lys Ala Lys Glu Lys Thr Val Glu Asp Leu  
1330 1335 1340  
Lys Ser Glu Glu Leu Ala Arg Glu Ile Val Gly Lys Asp Lys Ser Leu  
1345 1350 1355 1360  
Ala Asp Ile Leu Asp Pro Ser Val Lys Ile Lys Thr Thr Met Asp Leu  
1365 1370 1375  
Met Glu Gly Ile Phe Pro Lys Asp Glu His Leu Leu Glu Glu Ala Gln  
1380 1385 1390  
Gln Arg Arg Lys Leu Leu Pro Lys Ile Pro Ser Pro Arg Ser Thr Glu  
1395 1400 1405  
Glu Arg Lys Glu Glu Pro Ser Val Pro Ala Ala Val Ser Leu Ala Thr  
1410 1415 1420  
Asn Ser Thr Tyr Tyr Ser Thr Ser Ala Pro Lys Ala Glu Leu Leu Ile

1425                      1430                      1435                      1440  
 Lys Met Lys Asp Leu Gln Glu Gln Gln Glu His Glu Glu Asp Ser Gly  
                                  1445                      1450                      1455  
 Ser Asp Leu Asp His Asp Leu Ser Val Lys Lys Gln Glu Leu Ile Glu  
                                  1460                      1465                      1470  
 Ser Ile Ser Arg Lys Leu Gln Val Leu Arg Glu Ala Arg Glu Ser Leu  
                                  1475                      1480                      1485  
 Leu Glu Asp Val Gln Ala Asn Thr Val Leu Gly Ala Glu Val Glu Ala  
                                  1490                      1495                      1500  
 Ile Val Lys Gly Val Cys Lys Pro Ser Glu Phe Asp Lys Phe Arg Met  
 1505                      1510                      1515                      1520  
 Phe Ile Gly Asp Leu Asp Lys Val Val Asn Leu Leu Leu Ser Leu Ser  
                                  1525                      1530                      1535  
 Gly Arg Leu Ala Arg Val Glu Asn Ala Leu Asn Asn Leu Asp Asp Gly  
                                  1540                      1545                      1550  
 Ala Ser Pro Gly Asp Arg Gln Ser Leu Leu Glu Lys Gln Arg Val Leu  
                                  1555                      1560                      1565  
 Ile Gln Gln His Glu Asp Ala Lys Glu Leu Lys Glu Asn Leu Asp Arg  
                                  1570                      1575                      1580  
 Arg Glu Arg Ile Val Phe Asp Ile Leu Ala Asn Tyr Leu Ser Glu Glu  
 1585                      1590                      1595                      1600  
 Ser Leu Ala Asp Tyr Glu His Phe Val Lys Met Lys Ser Ala Leu Ile  
                                  1605                      1610                      1615  
 Ile Glu Gln Arg Glu Leu Glu Asp Lys Ile His Leu Gly Glu Glu Gln  
                                  1620                      1625                      1630  
 Leu Lys Cys Leu Leu Asp Ser Leu Gln Pro Glu Arg Gly Lys  
                                  1635                      1640                      1645 1646

<210> 3141  
 <211> 599  
 <212> PRT  
 <213> Homo sapiens

<400> 3141  
 Ser Pro Arg Gly Ala Thr Met Glu Thr Pro Pro Leu Pro Pro Ala Cys  
   1                                  5                                  10                                  15  
 Thr Lys Gln Gly His Gln Lys Pro Leu Asp Ser Lys Asp Asp Asn Thr  
                                   20                                  25                                  30  
 Glu Lys His Cys Pro Val Thr Val Asn Pro Trp His Met Lys Lys Ala  
                                   35                                  40                                  45  
 Phe Lys Val Met Asn Glu Leu Arg Ser Gln Asn Leu Leu Cys Asp Val  
                                   50                                  55                                  60  
 Thr Ile Val Ala Glu Asp Met Glu Ile Ser Ala His Arg Val Val Leu  
                                   65                                  70                                  75                                  80  
 Ala Ala Cys Ser Pro Tyr Phe His Ala Met Phe Thr Gly Glu Met Ser  
                                   85                                  90                                  95  
 Glu Ser Arg Ala Lys Arg Val Arg Ile Lys Glu Val Asp Gly Trp Thr  
                                   100                                  105                                  110  
 Leu Arg Met Leu Ile Asp Tyr Val Tyr Thr Ala Glu Ile Gln Val Thr  
                                   115                                  120                                  125  
 Glu Glu Asn Val Gln Val Leu Leu Pro Ala Ala Gly Leu Leu Gln Leu  
                                   130                                  135                                  140  
 Gln Asp Val Lys Lys Thr Cys Cys Glu Phe Leu Glu Ser Gln Leu His  
 145                      150                      155                      160  
 Pro Val Asn Cys Leu Gly Ile Arg Ala Phe Ala Asp Met His Ala Cys  
                                   165                      170                      175  
 Thr Asp Leu Leu Asn Lys Ala Asn Thr Tyr Ala Glu Gln His Phe Ala  
                                   180                      185                      190  
 Asp Val Val Leu Ser Glu Glu Phe Leu Asn Leu Gly Ile Glu Gln Val  
                                   195                      200                      205  
 Cys Ser Leu Ile Ser Ser Asp Lys Leu Thr Ile Ser Ser Glu Glu Lys

|                     |                 |                             |
|---------------------|-----------------|-----------------------------|
| 210                 | 215             | 220                         |
| Val Phe Glu Ala Val | Ile Ala Trp Val | Asn His Asp Lys Asp Val Arg |
| 225                 | 230             | 235                         |
| Gln Glu Phe Met Ala | Arg Leu Met Glu | His Val Arg Leu Pro Leu Leu |
| 245                 | 250             | 255                         |
| Pro Arg Glu Tyr Leu | Val Gln Arg Val | Glu Glu Glu Ala Leu Val Lys |
| 260                 | 265             | 270                         |
| Asn Ser Ser Ala Cys | Lys Asn Tyr Leu | Ile Glu Ala Met Lys Tyr His |
| 275                 | 280             | 285                         |
| Leu Leu Pro Thr Glu | Gln Arg Ile Leu | Met Lys Ser Val Arg Thr Arg |
| 290                 | 295             | 300                         |
| Leu Arg Thr Pro Met | Asn Leu Pro Lys | Leu Met Val Val Val Gly Gly |
| 305                 | 310             | 315                         |
| Gln Ala Pro Lys Ala | Ile Arg Ser Ala | Glu Cys Tyr Asp Phe Lys Glu |
| 325                 | 330             | 335                         |
| Gln Arg Trp His Gln | Val Ala Glu Leu | Pro Ser Arg Arg Cys Arg Ala |
| 340                 | 345             | 350                         |
| Gly Met Val Tyr Leu | Ala Gly Leu Val | Phe Ala Val Gly Gly Phe Asn |
| 355                 | 360             | 365                         |
| Gly Ser Leu Arg Val | Arg Thr Val Asp | Ser Tyr Asp Pro Val Lys Asp |
| 370                 | 375             | 380                         |
| Gln Trp Thr Ser Val | Ala Asn Met Arg | Asp Arg Arg Ser Thr Leu Gly |
| 385                 | 390             | 395                         |
| Ala Ala Val Leu Asn | Gly Leu Leu Tyr | Ala Val Gly Gly Phe Asp Gly |
| 405                 | 410             | 415                         |
| Ser Thr Gly Leu Ser | Ser Val Glu Ala | Tyr Asn Ile Lys Ser Asn Glu |
| 420                 | 425             | 430                         |
| Trp Phe His Val Ala | Pro Met Asn Thr | Arg Arg Ser Ser Val Gly Val |
| 435                 | 440             | 445                         |
| Gly Val Val Gly Gly | Leu Leu Tyr Ala | Val Gly Gly Tyr Asp Gly Ala |
| 450                 | 455             | 460                         |
| Ser Arg Gln Tyr Leu | Ser Thr Val Glu | Cys Tyr Asn Ala Thr Thr Asn |
| 465                 | 470             | 475                         |
| Glu Trp Thr Tyr Ile | Ala Glu Met Ser | Thr Arg Arg Ser Gly Ala Gly |
| 485                 | 490             | 495                         |
| Val Gly Val Leu Asn | Asn Leu Leu Tyr | Ala Val Gly Gly His Asp Gly |
| 500                 | 505             | 510                         |
| Pro Leu Val Arg Lys | Ser Val Glu Val | Tyr Asp Pro Thr Thr Asn Ala |
| 515                 | 520             | 525                         |
| Trp Arg Gln Val Ala | Asp Met Asn Met | Cys Arg Arg Asn Ala Gly Val |
| 530                 | 535             | 540                         |
| Cys Ala Val Asn Gly | Leu Leu Tyr Val | Val Gly Gly Asp Asp Gly Ser |
| 545                 | 550             | 555                         |
| Cys Asn Leu Ala Ser | Val Glu Tyr Tyr | Asn Pro Thr Thr Asp Lys Trp |
| 565                 | 570             | 575                         |
| Thr Val Val Ser Ser | Cys Met Ser Thr | Gly Arg Ser Tyr Ala Gly Val |
| 580                 | 585             | 590                         |
| Thr Val Ile Asp Lys | Pro Leu         |                             |
| 595                 | 599             |                             |

<210> 3142  
 <211> 33  
 <212> PRT  
 <213> Homo sapiens

<400> 3142  
 Phe Ser Asn Leu Thr Thr Glu Lys Val Ala His Ala Lys Glu Glu Asn  
 1 5 10 15  
 Leu Ser Met His Gln Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn  
 20 25 30  
 Met

<210> 3143  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 3143  
 Ser Glu Glu Leu Asp Arg Glu Lys Lys Leu Lys Glu Asp Ser Pro Arg  
 1 5 10 15  
 Lys Thr Pro Asn Lys Glu Ser Gly Val Pro Ser Leu Pro Val Ser Leu  
 20 25 30  
 Thr Ser Ile Lys Glu Glu Pro Lys Glu Ala Lys His Pro Asp Ser Gln  
 35 40 45  
 Ser Met Glu Glu Ser Lys Leu Lys Asn Asp Asp Arg Lys Thr Pro Val  
 50 55 60  
 Asn Trp Lys Asp Ser Arg Gly Thr Arg Val Ala Val Ser Ser Pro Met  
 65 70 75 80  
 Ser Gln His Gln Ser Tyr Ile Gln Tyr Leu His Ala Tyr Pro Tyr Pro  
 85 90 95  
 Gln Met Tyr Asp Pro Ser His Pro Ala Tyr Arg Ala Val Ser Pro Val  
 100 105 110  
 Leu Met His Ser Tyr Pro Gly Ala Tyr Leu Ser Pro Gly Phe His Tyr  
 115 120 125  
 Pro Val Tyr Gly Lys Met Ser Gly Arg Glu Glu Thr Glu Lys Val Asn  
 130 135 140  
 Thr Ser Pro Ser Val Asn Thr Lys Thr Thr Thr Glu Ser Lys Ala Leu  
 145 150 155 160  
 Asp Leu Leu Gln Gln His Ala Asn Gln Tyr Arg Ser Lys Ser Pro Ala  
 165 170 175  
 Pro Val Glu Lys Ala Thr Ala Glu Arg Glu Arg Glu Ala Glu Arg Glu  
 180 185 190  
 Arg Asp Arg His Ser Pro Phe Gly Gln Arg His Leu His Thr His His  
 195 200 205  
 His Thr His Val Gly Met Gly Tyr Pro Leu Ile Pro Gly Gln Tyr Asp  
 210 215 220  
 Pro Phe Gln Gly Leu Thr Ser Ala Ala Leu Val Ala Ser Gln Gln Val  
 225 230 235 240  
 Ala Ala Gln Ala Ser Ala Ser Gly Met Phe Pro Gly Gln Arg Arg  
 245 250 255

<210> 3144  
 <211> 175  
 <212> PRT  
 <213> Homo sapiens

<400> 3144  
 Ser Val Ser Gly Ile Val Leu Asp Leu Leu Pro Tyr Leu His Phe Leu  
 1 5 10 15  
 Ser Asn Met Asn Leu Asp Gly Ser Ala Gln Asp Pro Glu Lys Arg Glu  
 20 25 30  
 Tyr Ser Ser Val Cys Val Gly Arg Glu Asp Asp Ile Lys Lys Ser Glu  
 35 40 45  
 Arg Met Thr Ala Val Val His Asp Arg Glu Val Val Ile Phe Tyr His  
 50 55 60  
 Lys Gly Glu Tyr His Ala Met Asp Ile Arg Cys Tyr His Ser Gly Gly  
 65 70 75 80  
 Pro Leu His Leu Gly Asp Ile Glu Asp Phe Asp Gly Arg Pro Cys Ile

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Val | Cys | Pro | Trp | His | Lys | Tyr | Lys | Ile | Thr | Leu | Ala | Thr | Gly | Glu | Gly |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Tyr | Gln | Ser | Ile | Asn | Pro | Lys | Asp | Pro | Ser | Ala | Lys | Pro | Lys | Trp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Cys | Ser | Lys | Gly | Ile | Lys | Gln | Arg | Ile | His | Thr | Val | Thr | Val | Asp | Asn |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Asn | Ile | Tyr | Val | Thr | Leu | Ser | Asn | Glu | Pro | Phe | Lys | Cys | Asp | Ser |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Asp | Phe | Tyr | Ala | Thr | Gly | Asp | Phe | Lys | Val | Ile | Lys | Ser | Ser | Ser |     |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |  |  |

<210> 3145  
 <211> 110  
 <212> PRT  
 <213> Homo sapiens

<400> 3145

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Asn | Ser | Leu | Leu | Leu | Pro | Pro | Leu | His | Leu | Asp | Asn | Ser | Thr | Pro |  |  |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ala | Lys | Met | Ser | Cys | Gln | Gln | Asn | Gln | Gln | Gln | Cys | Gln | Pro | Pro | Pro |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Lys | Cys | Pro | Ser | Pro | Lys | Cys | Pro | Pro | Lys | Ser | Pro | Val | Gln | Cys | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Pro | Ala | Ser | Ser | Gly | Cys | Ala | Pro | Ser | Ser | Gly | Gly | Cys | Gly | Pro |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Ser | Glu | Gly | Gly | Cys | Phe | Leu | Asn | His | His | Arg | Arg | His | His | Arg |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Cys | Arg | Arg | Gln | Arg | Pro | Asn | Ser | Cys | Asp | Arg | Gly | Ser | Gly | Gln | Gln |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gly | Gly | Gly | Ser | Gly | Cys | Gly | His | Gly | Ser | Gly | Gly | Cys | Cys |     |     |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |

<210> 3146  
 <211> 382  
 <212> PRT  
 <213> Homo sapiens

<400> 3146

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Cys | Thr | Ala | Leu | Gln | Glu | Phe | Gly | Thr | Arg | Ser | Thr | Leu | Leu | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Cys | Leu | Asp | Ser | Gly | Phe | Arg | Pro | Gly | Ala | Ser | Arg | Gly | Leu | Val | Gly |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ser | Trp | Ala | Ala | Met | Glu | Ser | Thr | Leu | Gly | Ala | Gly | Ile | Val | Ile | Ala |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Glu | Ala | Leu | Gln | Asn | Gln | Leu | Ala | Trp | Leu | Glu | Asn | Val | Trp | Leu | Trp |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ile | Thr | Phe | Leu | Gly | Asp | Pro | Lys | Ile | Leu | Phe | Leu | Phe | Tyr | Phe | Pro |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Ala | Ala | Tyr | Tyr | Ala | Ser | Arg | Arg | Val | Gly | Ile | Ala | Val | Leu | Trp | Ile |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | Leu | Ile | Thr | Glu | Trp | Leu | Asn | Leu | Ile | Phe | Lys | Trp | Phe | Leu | Phe |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Asp | Arg | Pro | Phe | Trp | Trp | Val | His | Glu | Ser | Gly | Tyr | Tyr | Ser | Gln |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Pro | Ala | Gln | Val | His | Gln | Phe | Pro | Ser | Ser | Cys | Glu | Thr | Gly | Pro |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Ser | Pro | Ser | Gly | His | Cys | Met | Ile | Thr | Gly | Ala | Ala | Leu | Trp | Pro |  |  |



|                         |                     |                     |             |     |  |     |
|-------------------------|---------------------|---------------------|-------------|-----|--|-----|
| 145                     |                     | 150                 |             | 155 |  | 160 |
| Ile Met Thr Ala         | Leu Ser Ser Gln Val | Ala Thr Arg Ala Arg | Ser Arg     |     |  |     |
|                         | 165                 | 170                 | 175         |     |  |     |
| Trp Val Arg Val         | Met Pro Ser Leu Ala | Tyr Cys Thr Phe     | Leu Leu Ala |     |  |     |
|                         | 180                 | 185                 | 190         |     |  |     |
| Val Gly Leu Ser Arg     | Ile Phe Ile Leu Ala | His Phe Pro His     | Gln Val     |     |  |     |
|                         | 195                 | 200                 | 205         |     |  |     |
| Leu Ala Gly Leu Ile Thr | Gly Ala Val Leu Gly | Trp Leu Met Thr     | Pro         |     |  |     |
|                         | 210                 | 215                 | 220         |     |  |     |
| Arg Val Pro Met Glu Arg | Glu Leu Ser Phe Tyr | Gly Leu Thr Ala     | Leu         |     |  |     |
| 225                     | 230                 | 235                 | 240         |     |  |     |
| Ala Leu Met Leu Gly Thr | Ser Leu Ile Tyr Trp | Thr Leu Phe Thr     | Leu         |     |  |     |
|                         | 245                 | 250                 | 255         |     |  |     |
| Gly Leu Asp Leu Ser Trp | Ser Ile Ser Leu Ala | Phe Lys Trp Cys     | Glu         |     |  |     |
|                         | 260                 | 265                 | 270         |     |  |     |
| Arg Pro Glu Trp Ile His | Val Asp Ser Arg Pro | Phe Ala Ser Leu     | Ser         |     |  |     |
|                         | 275                 | 280                 | 285         |     |  |     |
| Arg Asp Ser Gly Ala Ala | Leu Gly Leu Gly Ile | Ala Leu His Ser     | Pro         |     |  |     |
|                         | 290                 | 295                 | 300         |     |  |     |
| Cys Tyr Ala Gln Val Arg | Arg Ala Gln Leu Gly | Asn Gly Gln Lys     | Ile         |     |  |     |
| 305                     | 310                 | 315                 | 320         |     |  |     |
| Ala Cys Leu Val Leu Ala | Met Gly Leu Leu Gly | Pro Leu Asp Trp     | Leu         |     |  |     |
|                         | 325                 | 330                 | 335         |     |  |     |
| Gly His Pro Pro Gln Ile | Ser Leu Phe Tyr Ile | Phe Asn Phe Leu     | Lys         |     |  |     |
|                         | 340                 | 345                 | 350         |     |  |     |
| Tyr Thr Leu Trp Pro Cys | Leu Val Leu Ala Leu | Val Pro Trp Ala     | Val         |     |  |     |
|                         | 355                 | 360                 | 365         |     |  |     |
| His Met Phe Ser Ala Gln | Glu Ala Pro Pro Ile | His Ser Ser         |             |     |  |     |
| 370                     | 375                 | 380                 | 382         |     |  |     |

&lt;210&gt; 3147

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3147

|                 |                 |                 |                 |     |
|-----------------|-----------------|-----------------|-----------------|-----|
| Arg Ser Phe Ser | Leu Ser Phe Ser | Leu Leu Ser     | Pro Ser Glu Met | Met |
| 1               | 5               | 10              | 15              |     |
| Ala Leu Gly Ala | Ala Gly Ala Thr | Arg Val Phe Val | Ala Met Val     | Ala |
|                 | 20              | 25              | 30              |     |
| Ala Ala Leu Gly | Gly His Pro Leu | Leu Gly Val Ser | Ala Thr Leu     | Asn |
|                 | 35              | 40              | 45              |     |
| Ser Val Leu Asn | Ser Asn Ala Ile | Lys Asn Leu Pro | Pro Pro Leu     | Gly |
|                 | 50              | 55              | 60              |     |
| Gly Ala Ala Gly | His Pro Gly Ser | Ala Val Ser Ala | Ala Pro Gly     | Ile |
|                 | 65              | 70              | 75              | 80  |
| Leu Tyr Pro Gly | Gly Asn Lys Tyr | Gln Thr Ile Asp | Asn Tyr Gln     | Pro |
|                 | 85              | 90              | 95              |     |
| Tyr Pro Cys Ala | Glu Asp Glu Glu | Cys Gly Thr Asp | Glu Tyr Cys     | Ala |
|                 | 100             | 105             | 110             |     |
| Ser Pro Thr Arg | Gly Gly Asp Ala | Gly Val Gln Ile | Cys Leu Ala     | Cys |
|                 | 115             | 120             | 125             |     |
| Arg Lys Arg Arg | Lys Arg Cys Met | Arg His Ala Met | Cys Cys Pro     | Gly |
|                 | 130             | 135             | 140             |     |
| Asn Tyr Cys Lys | Asn Gly Ile Cys | Val Ser Ser Asp | Gln Asn His     | Phe |
| 145             | 150             | 155             | 160             |     |
| Arg Gly Glu Ile | Glu Glu Thr Ile | Thr Glu Ser Phe | Gly Asn Asp     | His |
|                 | 165             | 170             | 175             |     |
| Ser Thr Leu Asp | Gly Tyr Ser Arg | Arg Thr Thr Leu | Ser Ser Lys     | Met |
|                 | 180             | 185             | 190             |     |
| Tyr His Thr Lys | Gly Gln Glu Gly | Ser Val Cys Leu | Arg Ser Ser     | Asp |

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Cys Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys Ile Cys |     |     |
| 210   | 215 | 220 |
| Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg Arg Lys |     |     |
| 225   | 230 | 235 |
| Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Tyr Cys Gly Glu Gly |     | 240 |
|   | 245 | 250 |
| Leu Ser Cys Arg Ile Gln Lys Asp His His Gln Ala Ser Asn Ser Ser |     | 255 |
|   | 260 | 265 |
| Arg Leu His Thr Cys Gln Arg His                                 |     | 270 |
| 275   | 280 |     |

<210> 3148  
 <211> 520  
 <212> PRT  
 <213> Homo sapiens

<400> 3148

|   |     |     |
|---|-----|-----|
| Met Ser Thr Leu Tyr Asp Ile Arg Ala His Lys Ala Gln Leu Leu Arg |     |     |
| 1   | 5   | 10  |
| Phe Phe Ala Ser Ser Asp Ser Asn Lys Ala Leu Glu Gln Arg Arg Thr |     | 15  |
|   | 20  | 25  |
| Leu His Thr Pro Lys Leu Glu His Leu Asp Arg Val Leu Tyr Glu Trp |     | 30  |
|   | 35  | 40  |
| Phe Leu Gly Lys Arg Ser Glu Gly Val Pro Val Ser Gly Pro Met Leu |     | 45  |
|   | 50  | 55  |
| Ile Glu Lys Ala Lys Asp Phe Tyr Glu Gln Met Gln Leu Thr Glu Pro |     | 60  |
| 65  | 70  | 75  |
| Cys Val Phe Ser Gly Gly Trp Leu Trp Arg Phe Lys Ala Arg His Gly |     | 80  |
|   | 85  | 90  |
| Ile Lys Lys Leu Asp Ala Ser Ser Glu Lys Gln Ser Ala Asp His Gln |     | 95  |
|   | 100 | 105 |
| Ala Ala Glu Gln Phe Cys Ala Phe Phe Arg Ser Leu Ala Ala Glu His |     | 110 |
|   | 115 | 120 |
| Gly Leu Ser Ala Glu Gln Val Tyr Asn Ala Asp Glu Thr Gly Leu Phe |     | 125 |
|   | 130 | 135 |
| Trp Arg Cys Leu Pro Asn Pro Thr Pro Glu Gly Gly Ala Val Pro Gly |     | 140 |
| 145   | 150 | 155 |
| Pro Lys Gln Gly Lys Asp Arg Leu Thr Val Leu Met Cys Ala Asn Ala |     | 160 |
|   | 165 | 170 |
| Thr Gly Ser His Arg Leu Lys Pro Leu Ala Ile Gly Lys Cys Ser Gly |     | 175 |
|   | 180 | 185 |
| Pro Arg Ala Phe Lys Gly Ile Gln His Leu Pro Val Ala Tyr Lys Ala |     | 190 |
|   | 195 | 200 |
| Gln Gly Asn Ala Trp Val Asp Lys Glu Ile Phe Ser Asp Trp Phe His |     | 205 |
|   | 210 | 215 |
| His Ile Phe Val Pro Ser Val Arg Glu His Phe Arg Thr Ile Gly Leu |     | 220 |
| 225   | 230 | 235 |
| Pro Glu Asp Ser Lys Ala Val Leu Leu Leu Asp Ser Ser Arg Ala His |     | 240 |
|   | 245 | 250 |
| Pro Gln Glu Ala Glu Leu Val Ser Ser Asn Val Phe Thr Ile Phe Leu |     | 255 |
|   | 260 | 265 |
| Pro Ala Ser Val Ala Ser Leu Val Gln Pro Met Glu Gln Gly Ile Arg |     | 270 |
|   | 275 | 280 |
| Arg Asp Phe Met Arg Asn Phe Ile Asn Pro Pro Val Pro Leu Gln Gly |     | 285 |
|   | 290 | 295 |
| Pro His Ala Arg Tyr Asn Met Asn Asp Ala Ile Phe Ser Val Ala Cys |     | 300 |
| 305   | 310 | 315 |
| Ala Trp Asn Ala Val Pro Ser His Val Phe Arg Arg Ala Trp Arg Lys |     | 320 |
|   | 325 | 330 |
| Leu Trp Pro Ser Val Ala Phe Ala Glu Gly Ser Ser Ser Glu Glu Glu |     | 335 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Leu | Glu | Ala | Glu | Cys | Phe | Pro | Val | Lys | Pro | His | Asn | Lys | Ser | Phe | Ala |  |  |
|     |     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |  |  |
| His | Ile | Leu | Glu | Leu | Val | Lys | Glu | Gly | Ser | Ser | Cys | Pro | Gly | Gln | Leu |  |  |
|     |     |     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |  |  |
| Arg | Gln | Arg | Gln | Ala | Ala | Ser | Trp | Gly | Val | Ala | Gly | Arg | Glu | Ala | Glu |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 385 |     |     |     |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |  |  |
| Gly | Gly | Arg | Pro | Pro | Ala | Ala | Thr | Ser | Pro | Ala | Glu | Val | Val | Trp | Ser |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Ser | Glu | Lys | Thr | Pro | Lys | Ala | Asp | Gln | Asp | Gly | Arg | Gly | Asp | Pro | Gly |  |  |
|     |     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |  |  |
| Glu | Gly | Glu | Glu | Val | Ala | Trp | Glu | Gln | Ala | Ala | Val | Ala | Phe | Asp | Ala |  |  |
|     |     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |  |  |
| Val | Leu | Arg | Phe | Ala | Glu | Arg | Gln | Pro | Cys | Phe | Ser | Ala | Gln | Glu | Val |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 450 |     |     |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |  |  |
| Gly | Gln | Leu | Arg | Ala | Leu | Arg | Ala | Val | Phe | Arg | Ser | Gln | Gln | Gln | Val |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 465 |     |     |     |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |  |  |
| Arg | Arg | Arg | Arg | Gly | Ala | Leu | Gly | Ala | Val | Val | Lys | Val | Glu | Ala | Leu |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Gln | Glu | Gly | Pro | Gly | Gly | Cys | Gly | Ala | Thr | Ala | Gln | Ser | Pro | Leu | Pro |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Cys | Ser | Ser | Thr | Ala | Gly | Asp | Asn |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 515 |     |     |     | 520 |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3149

&lt;211&gt; 1331

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3149

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Ala | Val | Met | Ile | Ser | Thr | Ala | Pro | Leu | Tyr | Ser | Gly | Val | His | Asn |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Trp | Thr | Ser | Ser | Asp | Arg | Ile | Arg | Met | Cys | Gly | Ile | Asn | Glu | Glu | Arg |  |  |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Ala | Pro | Leu | Ser | Asp | Glu | Glu | Ser | Thr | Thr | Gly | Asp | Cys | Gln | His |  |  |
|     |     |     |     | 35  |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Phe | Gly | Ser | Gln | Glu | Phe | Cys | Val | Ser | Ser | Ser | Phe | Ser | Lys | Val | Glu |  |  |
|     |     |     |     | 50  |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Leu | Thr | Ala | Val | Gly | Ser | Gly | Ser | Asn | Ala | Arg | Gly | Ala | Asp | Pro | Asp |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 65  |     |     |     |     |     | 70  |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Gly | Ser | Ala | Thr | Glu | Lys | Leu | Gly | His | Lys | Ser | Glu | Asp | Lys | Pro | Asp |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Asp | Pro | Gln | Pro | Lys | Met | Asp | Tyr | Ala | Gly | Asn | Val | Ala | Glu | Ala | Glu |  |  |
|     |     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Leu | Leu | Val | Pro | Leu | Ser | Ser | Pro | Gly | Asp | Gly | Leu | Lys | Leu | Pro |  |  |
|     |     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |  |  |
| Ala | Ser | Asp | Ser | Ala | Glu | Ala | Ser | Asn | Ser | Arg | Ala | Asp | Cys | Ser | Trp |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 130 |     |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |  |  |
| Thr | Pro | Leu | Asn | Thr | Gln | Met | Ser | Lys | Gln | Val | Asp | Cys | Ser | Pro | Ala |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |  |  |
| Gly | Val | Lys | Ala | Leu | Asp | Ser | Arg | Gln | Gly | Val | Gly | Glu | Lys | Asn | Thr |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Phe | Ile | Leu | Ala | Thr | Leu | Gly | Thr | Gly | Val | Pro | Val | Glu | Gly | Thr | Leu |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Pro | Leu | Val | Thr | Thr | Asn | Phe | Ser | Pro | Leu | Pro | Ala | Pro | Ile | Cys | Pro |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |  |  |
| Pro | Ala | Pro | Ser | Ser | Ala | Ser | Val | Pro | His | Ser | Val | Pro | Asp | Ala | Phe |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 210 |     |     |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |  |  |
| Gln | Ala | Pro | Val | Pro | Pro | Ser | Ala | Pro | Thr | Leu | Val | Leu | Ala | Pro | Val |  |  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |  |  |
| Pro | Thr | Pro | Val | Leu | Ala | Pro | Met | Pro | Ala | Ser | Thr | Pro | Pro | Ala | Ala |  |  |

4834

|   |      |      |
|---|------|------|
| 755   | 760  | 765  |
| Pro Thr Ser Val Val Ser Glu Phe Ser Gly Val Pro Ser Leu Ser Ser |      |      |
| 770   | 775  | 780  |
| Ser Glu Ala Val His Gly Leu Pro Glu Gly Gln Pro Arg Pro Gly Gly |      |      |
| 785   | 790  | 795  |
| Ser Phe Val Pro Glu Gln Asp Pro Val Thr Lys Asn Lys Thr Cys Arg |      |      |
| 805   | 810  | 815  |
| Ile Ala Ala Lys Pro Tyr Glu Glu Gln Val Asn Pro Val Leu Leu Thr |      |      |
| 820   | 825  | 830  |
| Leu Ser Pro Gln Thr Gly Thr Leu Ala Leu Ser Val Gln Pro Ser Gly |      |      |
| 835   | 840  | 845  |
| Gly Asp Ile Arg Met Asn Gln Gly Pro Glu Glu Ser Glu Ser His Leu |      |      |
| 850   | 855  | 860  |
| Cys Ser Asp Ser Thr Pro Lys Met Glu Gly Pro Gln Gly Ala Cys Gly |      |      |
| 865   | 870  | 875  |
| Leu Lys Leu Ala Gly Asp Thr Lys Pro Lys Asn Gln Val Leu Ala Thr |      |      |
| 885   | 890  | 895  |
| Tyr Met Ser His Glu Leu Val Leu Ala Thr Pro Gln Asn Leu Pro Lys |      |      |
| 900   | 905  | 910  |
| Met Pro Glu Leu Pro Leu Leu Pro His Asp Ser His Pro Lys Glu Leu |      |      |
| 915   | 920  | 925  |
| Ile Leu Asp Val Val Pro Ser Ser Arg Arg Gly Ser Ser Thr Glu Arg |      |      |
| 930   | 935  | 940  |
| Pro Gln Leu Gly Ser Gln Val Asp Leu Gly Arg Val Lys Met Glu Lys |      |      |
| 945   | 950  | 955  |
| Val Asp Gly Asp Val Val Phe Asn Leu Ala Thr Cys Phe Arg Ala Asp |      |      |
| 965   | 970  | 975  |
| Gly Leu Pro Val Ala Pro Gln Arg Gly Gln Ala Glu Val Arg Ala Lys |      |      |
| 980   | 985  | 990  |
| Ala Gly Gln Ala Arg Val Lys Gln Glu Ser Val Gly Val Phe Ala Cys |      |      |
| 995   | 1000 | 1005 |
| Lys Asn Lys Trp Gln Pro Asp Asp Val Thr Glu Ser Leu Pro Pro Lys |      |      |
| 1010  | 1015 | 1020 |
| Lys Met Lys Cys Gly Lys Glu Lys Asp Ser Glu Gln Gln Leu Gln     |      |      |
| 1025  | 1030 | 1035 |
| Pro Gln Ala Lys Ala Val Val Arg Ser Ser His Arg Pro Lys Cys Arg |      |      |
| 1045  | 1050 | 1055 |
| Lys Leu Pro Ser Asp Pro Gln Glu Ser Thr Lys Lys Ser Pro Arg Gly |      |      |
| 1060  | 1065 | 1070 |
| Ala Ser Asp Ser Gly Lys Glu His Asn Gly Val Arg Gly Lys His Lys |      |      |
| 1075  | 1080 | 1085 |
| His Arg Lys Pro Thr Lys Pro Glu Ser Gln Ser Pro Gly Lys Arg Ala |      |      |
| 1090  | 1095 | 1100 |
| Asp Ser His Glu Glu Gly Ser Leu Glu Lys Lys Ala Lys Ser Ser Phe |      |      |
| 1105  | 1110 | 1115 |
| Arg Asp Phe Ile Pro Val Val Leu Ser Thr Arg Thr Arg Ser Gln Ser |      |      |
| 1125  | 1130 | 1135 |
| Asp Leu Lys Ala Arg Lys Gln Lys Thr Ser Ser Ser Gln Ser Leu Glu |      |      |
| 1140  | 1145 | 1150 |
| His Arg Leu Arg Asn Arg Asn Leu Leu Leu Pro Asn Lys Val Gln Gly |      |      |
| 1155  | 1160 | 1165 |
| Ile Ser Asp Ser Pro Asn Gly Phe Leu Pro Asn Asn Leu Glu Glu Pro |      |      |
| 1170  | 1175 | 1180 |
| Ala Cys Leu Glu Asn Ser Glu Lys Pro Ser Gly Lys Arg Lys Cys Lys |      |      |
| 1185  | 1190 | 1195 |
| Thr Lys His Met Ala Thr Val Ser Glu Glu Ala Lys Gly Lys Gly Arg |      |      |
| 1205  | 1210 | 1215 |
| Trp Ser Gln Gln Lys Thr Arg Ser Pro Lys Ser Pro Thr Pro Val Lys |      |      |
| 1220  | 1225 | 1230 |
| Pro Thr Glu Pro Cys Thr Pro Ser Lys Ser Arg Ser Ala Ser Ser Glu |      |      |
| 1235  | 1240 | 1245 |
| Glu Ala Ser Glu Ser Pro Thr Ala Arg Gln Ile Pro Pro Glu Ala Arg |      |      |
| 1250  | 1255 | 1260 |
| Arg Leu Ile Val Asn Lys Asn Ala Gly Glu Thr Leu Leu Gln Arg Ala |      |      |

1265                      1270                      1275                      1280  
 Ala Arg Leu Gly Tyr Lys Asp Val Val Leu Tyr Cys Leu Gln Lys Asp  
                                  1285                      1290                      1295  
 Ser Glu Asp Val Asn His Arg Asp Asn Ala Gly Tyr Thr Ala Leu His  
                                  1300                      1305                      1310  
 Glu Ala Cys Ser Arg Gly Trp Thr Asp Ile Leu Asn Ile Leu Leu Glu  
                                  1315                      1320                      1325  
 His Gly Ala  
 13301331

<210> 3150  
 <211> 931  
 <212> PRT  
 <213> Homo sapiens

<400> 3150  
 Ser Leu Arg Met His Asn Leu Ser Ile Leu Val Arg Gln Ile Lys Phe  
   1                                  5                                  10                                  15  
 Tyr Tyr Gln Glu Thr Leu Gln Gln Leu Ile Met Met Ser Leu Pro Asn  
                                   20                                  25                                  30  
 Val Leu Ile Ile Gly Lys Asn Pro Phe Ser Glu Gln Gly Thr Glu Glu  
                                   35                                  40                                  45  
 Val Lys Lys Leu Leu Leu Leu Leu Leu Gly Cys Ala Val Gln Cys Gln  
                                   50                                  55                                  60  
 Lys Lys Glu Glu Phe Ile Glu Arg Ile Gln Gly Leu Asp Phe Asp Thr  
                                   65                                  70                                  75                                  80  
 Lys Ala Ala Val Ala Ala His Ile Gln Glu Val Thr His Asn Gln Glu  
                                   85                                  90                                  95  
 Asn Val Phe Asp Leu Gln Trp Met Glu Val Thr Asp Met Ser Gln Glu  
                                   100                                  105                                  110  
 Asp Ile Glu Pro Leu Leu Lys Asn Met Ala Leu His Leu Lys Arg Leu  
                                   115                                  120                                  125  
 Ile Asp Glu Arg Asp Glu His Ser Glu Thr Ile Ile Glu Leu Ser Glu  
                                   130                                  135                                  140  
 Glu Arg Asp Gly Leu His Phe Leu Pro His Ala Ser Ser Ser Ala Gln  
                                   145                                  150                                  155                                  160  
 Ser Pro Cys Gly Ser Pro Gly Met Lys Arg Thr Glu Ser Arg Gln His  
                                   165                                  170                                  175  
 Leu Ser Val Glu Leu Ala Asp Ala Lys Ala Lys Ile Arg Arg Leu Arg  
                                   180                                  185                                  190  
 Gln Glu Leu Glu Glu Lys Thr Glu Gln Leu Leu Asp Cys Lys Gln Glu  
                                   195                                  200                                  205  
 Leu Glu Gln Met Glu Ile Glu Leu Lys Arg Leu Gln Gln Glu Asn Met  
                                   210                                  215                                  220  
 Asn Leu Leu Ser Asp Ala Arg Ser Ala Arg Met Tyr Arg Asp Glu Leu  
                                   225                                  230                                  235                                  240  
 Asp Ala Leu Arg Glu Lys Ala Val Arg Val Asp Lys Leu Glu Ser Glu  
                                   245                                  250                                  255  
 Val Ser Arg Tyr Lys Glu Arg Leu His Asp Ile Glu Phe Tyr Lys Ala  
                                   260                                  265                                  270  
 Arg Val Glu Glu Leu Lys Glu Asp Asn Gln Val Leu Leu Glu Thr Lys  
                                   275                                  280                                  285  
 Thr Met Leu Glu Asp Gln Leu Glu Gly Thr Arg Ala Arg Ser Asp Lys  
                                   290                                  295                                  300  
 Leu His Glu Leu Glu Lys Glu Asn Leu Gln Leu Lys Ala Lys Leu His  
                                   305                                  310                                  315                                  320  
 Asp Met Glu Met Glu Arg Asp Met Asp Arg Lys Lys Ile Glu Glu Leu  
                                   325                                  330                                  335  
 Met Glu Glu Asn Met Thr Leu Glu Met Ala Gln Lys Gln Ser Met Asp  
                                   340                                  345                                  350  
 Glu Ser Leu His Leu Gly Trp Glu Leu Glu Gln Ile Ser Arg Thr Ser



|   |     |     |
|---|-----|-----|
| 355   | 360 | 365 |
| Glu Leu Ser Glu Ala Pro Gln Lys Ser Leu Gly His Glu Val Asn Glu |     |     |
| 370   | 375 | 380 |
| Leu Thr Ser Ser Arg Leu Leu Lys Leu Glu Met Glu Asn Gln Ser Leu |     |     |
| 385   | 390 | 395 |
| Thr Lys Thr Val Glu Glu Leu Arg Thr Thr Val Asp Ser Val Glu Gly |     |     |
| 405   | 410 | 415 |
| Asn Ala Ser Lys Ile Leu Lys Met Glu Lys Glu Asn Gln Arg Leu Ser |     |     |
| 420   | 425 | 430 |
| Lys Lys Val Glu Ile Leu Glu Asn Glu Ile Val Gln Glu Lys Gln Ser |     |     |
| 435   | 440 | 445 |
| Leu Gln Asn Cys Gln Asn Leu Ser Lys Asp Leu Met Lys Glu Lys Ala |     |     |
| 450   | 455 | 460 |
| Gln Leu Glu Lys Thr Ile Glu Thr Leu Arg Glu Asn Ser Glu Arg Gln |     |     |
| 465   | 470 | 475 |
| Ile Lys Ile Leu Glu Gln Glu Asn Glu His Leu Asn Gln Thr Val Ser |     |     |
| 485   | 490 | 495 |
| Ser Leu Arg Gln Arg Ser Gln Ile Ser Ala Glu Ala Arg Val Lys Asp |     |     |
| 500   | 505 | 510 |
| Ile Glu Lys Glu Asn Lys Ile Leu His Glu Ser Ile Lys Glu Thr Ser |     |     |
| 515   | 520 | 525 |
| Ser Lys Leu Ser Lys Ile Glu Phe Glu Lys Arg Gln Ile Lys Lys Glu |     |     |
| 530   | 535 | 540 |
| Leu Glu His Tyr Lys Glu Lys Gly Glu Arg Ala Glu Glu Leu Glu Asn |     |     |
| 545   | 550 | 555 |
| Glu Leu His His Leu Glu Lys Glu Asn Glu Leu Leu Gln Lys Lys Ile |     |     |
| 565   | 570 | 575 |
| Thr Asn Leu Lys Ile Thr Cys Glu Lys Ile Glu Ala Leu Glu Gln Glu |     |     |
| 580   | 585 | 590 |
| Asn Ser Glu Leu Glu Arg Glu Asn Arg Lys Leu Lys Lys Thr Leu Asp |     |     |
| 595   | 600 | 605 |
| Ser Phe Lys Asn Leu Thr Phe Gln Leu Glu Ser Leu Glu Lys Glu Asn |     |     |
| 610   | 615 | 620 |
| Ser Gln Leu Asp Glu Glu Asn Leu Glu Leu Arg Arg Asn Val Glu Ser |     |     |
| 625   | 630 | 635 |
| Leu Lys Cys Ala Ser Met Lys Met Ala Gln Leu Gln Leu Glu Asn Lys |     |     |
| 645   | 650 | 655 |
| Glu Leu Glu Ser Glu Lys Glu Gln Leu Lys Lys Gly Leu Glu Leu Leu |     |     |
| 660   | 665 | 670 |
| Lys Ala Ser Phe Lys Lys Thr Glu Arg Leu Glu Val Ser Tyr Gln Gly |     |     |
| 675   | 680 | 685 |
| Leu Asp Ile Glu Asn Gln Arg Leu Gln Lys Thr Leu Glu Asn Ser Asn |     |     |
| 690   | 695 | 700 |
| Lys Lys Ile Gln Gln Leu Glu Ser Glu Leu Gln Asp Leu Glu Met Glu |     |     |
| 705   | 710 | 715 |
| Asn Gln Thr Leu Gln Lys Asn Leu Glu Glu Leu Lys Ile Ser Ser Lys |     |     |
| 725   | 730 | 735 |
| Arg Leu Glu Gln Leu Glu Lys Glu Asn Lys Ser Leu Glu Gln Glu Thr |     |     |
| 740   | 745 | 750 |
| Ser Gln Leu Glu Lys Asp Lys Lys Gln Leu Glu Lys Glu Asn Lys Arg |     |     |
| 755   | 760 | 765 |
| Leu Arg Gln Gln Ala Glu Ile Lys Asp Thr Thr Leu Glu Glu Asn Asn |     |     |
| 770   | 775 | 780 |
| Val Lys Ile Gly Asn Leu Glu Lys Glu Asn Lys Thr Leu Ser Lys Glu |     |     |
| 785   | 790 | 795 |
| Ile Gly Ile Tyr Lys Glu Ser Cys Val Arg Leu Glu Glu Leu Glu Lys |     |     |
| 805   | 810 | 815 |
| Glu Asn Lys Glu Leu Val Lys Arg Ala Thr Ile Asp Ile Lys Thr Leu |     |     |
| 820   | 825 | 830 |
| Val Thr Leu Arg Glu Asp Leu Val Ser Glu Lys Leu Lys Thr Gln Gln |     |     |
| 835   | 840 | 845 |
| Met Asn Asn Asp Leu Glu Lys Leu Thr His Glu Leu Glu Lys Ile Gly |     |     |
| 850   | 855 | 860 |
| Leu Asn Lys Glu Arg Leu Leu His Asp Glu Gln Ser Thr Asp Asp Ser |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 865 |     | 870 |     | 875 |     | 880 |     |     |     |     |     |     |     |     |     |
| Arg | Tyr | Lys | Leu | Leu | Glu | Ser | Lys | Leu | Glu | Ser | Thr | Leu | Lys | Lys | Ser |
|     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Leu | Glu | Ile | Lys | Glu | Glu | Lys | Ile | Ala | Ala | Leu | Glu | Ala | Arg | Leu | Glu |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |
| Glu | Ser | Thr | Asn | Tyr | Asn | Gln | Gln | Leu | Arg | Gln | Glu | Leu | Lys | Thr | Val |
|     |     |     | 915 |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Lys | Lys | Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 930 |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3151

&lt;211&gt; 838

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3151

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Phe | Trp | Leu | His | Leu | Thr | Leu | Leu | Gly | Ala | Ser | Leu | Pro | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Gly | Trp | Met | Asp | Pro | Gly | Thr | Ser | Arg | Gly | Pro | Asp | Val | Gly | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Glu | Ser | Gln | Ala | Glu | Glu | Pro | Arg | Ser | Phe | Glu | Val | Thr | Arg | Arg |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Glu | Gly | Leu | Ser | Ser | His | Asn | Glu | Leu | Leu | Ala | Ser | Cys | Gly | Lys | Lys |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Cys | Ser | Arg | Gly | Ser | Arg | Cys | Val | Leu | Ser | Arg | Lys | Thr | Gly | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Pro | Glu | Cys | Gln | Cys | Leu | Glu | Ala | Cys | Arg | Pro | Ser | Tyr | Val | Pro | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Cys | Gly | Ser | Asp | Gly | Arg | Phe | Tyr | Glu | Asn | His | Cys | Lys | Leu | His | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Ala | Cys | Leu | Leu | Gly | Lys | Arg | Ile | Thr | Val | Ile | His | Ser | Lys | Asp |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Phe | Leu | Lys | Gly | Asp | Thr | Cys | Thr | Met | Ala | Gly | Tyr | Ala | Arg | Leu |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Asn | Val | Leu | Leu | Ala | Leu | Gln | Thr | Arg | Leu | Gln | Pro | Leu | Gln | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Asp | Ser | Arg | Gln | Asp | Pro | Ala | Ser | Gln | Lys | Arg | Leu | Leu | Val | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Leu | Phe | Arg | Asp | Leu | Asp | Ala | Asp | Gly | Asn | Gly | His | Leu | Ser | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Glu | Leu | Ala | Gln | His | Val | Leu | Lys | Lys | Gln | Asp | Leu | Asp | Glu | Asp |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Leu | Gly | Cys | Ser | Pro | Gly | Asp | Leu | Leu | Arg | Phe | Asp | Asp | Tyr | Asn |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Asp | Ser | Ser | Leu | Thr | Leu | Arg | Glu | Phe | Tyr | Met | Ala | Phe | Gln | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Gln | Leu | Ser | Leu | Ala | Pro | Glu | Asp | Arg | Val | Ser | Val | Thr | Thr | Val |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Val | Gly | Leu | Ser | Thr | Val | Leu | Thr | Cys | Ala | Val | His | Gly | Asp | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Pro | Pro | Ile | Ile | Trp | Lys | Arg | Asn | Gly | Leu | Thr | Leu | Asn | Phe | Leu |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asp | Leu | Glu | Asp | Ile | Asn | Asp | Phe | Gly | Glu | Asp | Asp | Ser | Leu | Tyr | Ile |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Lys | Val | Thr | Thr | Ile | His | Met | Gly | Asn | Tyr | Thr | Cys | His | Ala | Ser |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gly | His | Glu | Gln | Leu | Phe | Gln | Thr | His | Val | Leu | Gln | Val | Asn | Val | Pro |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Val | Ile | Arg | Val | Tyr | Pro | Glu | Ser | Gln | Ala | Gln | Glu | Pro | Gly | Val |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Ala | Ala | Ser | Leu | Arg | Cys | His | Ala | Glu | Gly | Ile | Pro | Met | Pro | Arg | Ile |

4839

<210> 3152  
 <211> 881  
 <212> PRT  
 <213> Homo sapiens

<400> 3152  
 Gly Ala Gly Trp Gln Val Ser Leu Thr Gly Arg Trp Ser Pro Gly Arg  
 1 5 10 15  
 Glu Ala Gly Ala Gly Glu Val Arg Gln Asp Pro Gly Ser Thr Ala Ala  
 20 25 30  
 Ser Pro Ser Ser Cys Asp Ala Asp Leu Ser Ala Arg Met Ala Arg Gly  
 35 40 45  
 Glu Arg Arg Arg Arg Ala Val Pro Ala Glu Gly Val Arg Thr Ala Glu  
 50 55 60  
 Arg Ala Ala Arg Gly Gly Pro Gly Arg Arg Asp Gly Arg Gly Gly Gly  
 65 70 75 80  
 Pro Arg Ser Thr Ala Gly Gly Val Ala Leu Ala Val Val Val Leu Ser  
 85 90 95  
 Leu Ala Leu Gly Met Ser Gly Arg Trp Val Leu Ala Trp Tyr Arg Ala  
 100 105 110  
 Arg Arg Ala Val Thr Leu His Ser Ala Pro Ala Val Leu Pro Ala Asp  
 115 120 125  
 Ser Ser Ser Pro Ala Val Ala Pro Asp Leu Phe Trp Gly Thr Tyr Arg  
 130 135 140  
 Pro His Val Tyr Phe Gly Met Lys Thr Arg Ser Pro Lys Pro Leu Leu  
 145 150 155 160  
 Thr Gly Leu Met Trp Ala Gln Gln Gly Thr Thr Pro Gly Thr Pro Lys  
 165 170 175  
 Leu Arg His Thr Cys Glu Gln Gly Asp Gly Val Gly Pro Tyr Gly Trp  
 180 185 190  
 Glu Phe His Asp Gly Leu Ser Phe Gly Arg Gln His Ile Gln Asp Gly  
 195 200 205  
 Ala Leu Arg Leu Thr Thr Glu Phe Val Lys Arg Pro Gly Gly Gln His  
 210 215 220  
 Gly Gly Asp Trp Ser Trp Arg Val Thr Val Glu Pro Gln Asp Ser Gly  
 225 230 235 240  
 Thr Ser Ala Leu Pro Leu Val Ser Leu Phe Phe Tyr Val Val Thr Asp  
 245 250 255  
 Gly Lys Glu Val Leu Leu Pro Glu Val Gly Ala Lys Gly Gln Leu Lys  
 260 265 270  
 Phe Ile Ser Gly His Thr Ser Glu Leu Gly Asp Phe Arg Phe Thr Leu  
 275 280 285  
 Leu Pro Pro Thr Ser Pro Gly Asp Thr Ala Pro Lys Tyr Gly Ser Tyr  
 290 295 300  
 Asn Val Phe Trp Thr Ser Asn Pro Gly Leu Pro Leu Leu Thr Glu Met  
 305 310 315 320  
 Val Lys Ser Arg Leu Asn Ser Trp Phe Gln His Arg Pro Pro Gly Ala  
 325 330 335  
 Ser Pro Glu Arg Tyr Leu Gly Leu Pro Gly Ser Leu Lys Trp Glu Asp  
 340 345 350  
 Arg Gly Pro Ser Gly Gln Gly Gln Gly Gln Phe Leu Ile Gln Gln Val  
 355 360 365  
 Thr Leu Lys Ile Pro Ile Ser Ile Glu Phe Val Phe Glu Ser Gly Ser  
 370 375 380  
 Ala Gln Ala Gly Gly Asn Gln Ala Leu Pro Arg Leu Ala Gly Ser Leu  
 385 390 395 400  
 Leu Thr Gln Ala Leu Glu Ser His Ala Glu Gly Phe Arg Glu Arg Phe  
 405 410 415  
 Glu Lys Thr Phe Gln Leu Lys Glu Lys Gly Leu Ser Ser Gly Glu Gln  
 420 425 430  
 Val Leu Gly Gln Ala Ala Leu Ser Gly Leu Leu Gly Gly Ile Gly Tyr  
 435 440 445  
 Phe Tyr Gly Gln Gly Leu Val Leu Pro Asp Ile Gly Val Glu Gly Ser

|                         |                     |                     |     |     |
|-------------------------|---------------------|---------------------|-----|-----|
| 450                     |                     | 455                 |     | 460 |
| Glu Gln Lys Val Asp Pro | Ala Leu Phe Pro Pro | Val Pro Leu Phe Thr |     |     |
| 465                     |                     | 470                 |     | 480 |
| Ala Val Pro Ser Arg Ser | Phe Phe Pro Arg Gly | Phe Leu Trp Asp Glu |     |     |
|                         | 485                 |                     | 490 | 495 |
| Gly Phe His Gln Leu Val | Val Gln Arg Trp Asp | Pro Ser Leu Thr Arg |     |     |
|                         | 500                 |                     | 505 | 510 |
| Glu Ala Leu Gly His Trp | Leu Gly Leu Leu Asn | Ala Asp Gly Trp Ile |     |     |
|                         | 515                 |                     | 520 | 525 |
| Gly Arg Glu Gln Ile Leu | Gly Asp Glu Ala Arg | Ala Arg Val Pro Pro |     |     |
|                         | 530                 |                     | 535 | 540 |
| Glu Phe Leu Val Gln Arg | Ala Val His Ala Asn | Pro Pro Thr Leu Leu |     |     |
| 545                     |                     | 550                 |     | 555 |
| Leu Pro Val Ala His Met | Leu Glu Val Gly Asp | Pro Asp Asp Leu Ala |     |     |
|                         | 565                 |                     | 570 | 575 |
| Phe Leu Arg Lys Ala Leu | Pro Arg Leu His Ala | Trp Phe Ser Trp Leu |     |     |
|                         | 580                 |                     | 585 | 590 |
| His Gln Ser Gln Ala Gly | Pro Leu Pro Leu Ser | Tyr Arg Trp Arg Gly |     |     |
|                         | 595                 |                     | 600 | 605 |
| Arg Asp Pro Ala Leu Pro | Thr Leu Leu Asn Pro | Lys Thr Leu Pro Ser |     |     |
|                         | 610                 |                     | 615 | 620 |
| Gly Leu Asp Asp Tyr Pro | Arg Ala Ser His Pro | Ser Val Thr Glu Arg |     |     |
| 625                     |                     | 630                 |     | 635 |
| His Leu Asp Leu Arg Cys | Trp Val Ala Leu Gly | Ala Arg Val Leu Thr |     |     |
|                         | 645                 |                     | 650 | 655 |
| Arg Leu Ala Glu His Leu | Gly Glu Ala Glu Val | Ala Ala Glu Leu Gly |     |     |
|                         | 660                 |                     | 665 | 670 |
| Pro Leu Ala Ala Ser Leu | Glu Ala Ala Glu Ser | Leu Asp Glu Leu His |     |     |
|                         | 675                 |                     | 680 | 685 |
| Trp Ala Pro Glu Leu Gly | Val Phe Ala Asp Phe | Gly Asn His Thr Lys |     |     |
|                         | 690                 |                     | 695 | 700 |
| Ala Val Gln Leu Lys Pro | Arg Pro Pro Gln Gly | Leu Val Arg Val Val |     |     |
| 705                     |                     | 710                 |     | 715 |
| Gly Arg Pro Gln Pro Gln | Leu Gln Tyr Val Asp | Ala Leu Gly Tyr Val |     |     |
|                         | 725                 |                     | 730 | 735 |
| Ser Leu Phe Pro Leu Leu | Leu Arg Leu Leu Asp | Pro Thr Ser Ser Arg |     |     |
|                         | 740                 |                     | 745 | 750 |
| Leu Gly Pro Leu Leu Asp | Ile Leu Ala Asp Ser | Arg His Leu Trp Ser |     |     |
|                         | 755                 |                     | 760 | 765 |
| Pro Phe Gly Leu Arg Ser | Leu Ala Ala Ser Ser | Ser Phe Tyr Gly Gln |     |     |
|                         | 770                 |                     | 775 | 780 |
| Arg Asn Ser Glu His Asp | Pro Pro Tyr Trp Arg | Gly Ala Val Trp Leu |     |     |
| 785                     |                     | 790                 |     | 795 |
| Asn Val Asn Tyr Leu Ala | Leu Gly Ala Leu His | His Tyr Gly His Leu |     |     |
|                         | 805                 |                     | 810 | 815 |
| Glu Gly Pro His Gln Ala | Arg Ala Ala Lys Leu | His Gly Glu Leu Arg |     |     |
|                         | 820                 |                     | 825 | 830 |
| Ala Asn Val Val Gly Asn | Val Trp Arg Gln Tyr | Gln Ala Thr Gly Phe |     |     |
|                         | 835                 |                     | 840 | 845 |
| Leu Trp Glu Gln Tyr Ser | Asp Arg Asp Gly Arg | Gly Met Gly Cys Arg |     |     |
|                         | 850                 |                     | 855 | 860 |
| Pro Phe His Gly Trp Thr | Ser Leu Val Leu Leu | Ala Met Ala Glu Asp |     |     |
| 865                     |                     | 870                 |     | 875 |
| Tyr                     |                     |                     |     | 880 |
| 881                     |                     |                     |     |     |

<210> 3153  
 <211> 1437  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3153

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Met Val Ile Lys Thr Asp Glu Leu Pro Ala Ala Ala Pro Ala Asp Ser
 1          5          10          15
Ala Arg Glu His Gly Ser Gln Ala Gly Gly Lys Gly Arg Pro Gly Ala
          20          25          30
Ala Ala Val Leu Leu Ala Asp Leu Glu Arg Asp Ala Arg Gln Gly Glu
          35          40          45
Cys Ala Leu Pro Gly Ala Ala Met Ala Gly Leu Ala Pro Leu Lys Pro
          50          55          60
Glu Ala Ser Arg Ser Ser Ser Pro Gly Pro Thr Gly Cys Ile Arg Ala
          65          70          75          80
Arg Val Ala Ala Glu Ala Gly Thr Arg Asn Pro Gly Asn Ala Gly Ala
          85          90          95
Glu Leu Glu Ser Trp Leu Pro Cys Cys His Gly His Pro Glu Thr Pro
          100          105          110
Glu Pro Arg Gly Gly Gln Leu Pro Thr Ala Pro Glu Leu Pro Ser Val
          115          120          125
Met Leu Leu Asn Gly Asp Cys Pro Glu Ser Leu Lys Lys Glu Ala Ala
          130          135          140
Ala Ala Glu Pro Pro Arg Glu Asn Gly Leu Asp Glu Ala Gly Pro Gly
          145          150          155          160
Asp Glu Thr Thr Gly Gln Glu Val Ile Val Ile Gln Asp Thr Gly Phe
          165          170          175
Ser Val Lys Ile Leu Ala Pro Gly Ile Glu Pro Phe Ser Leu Gln Val
          180          185          190
Ser Pro Gln Glu Met Val Gln Glu Ile His Gln Val Leu Met Asp Arg
          195          200          205
Glu Asp Thr Cys His Arg Thr Cys Phe Ser Leu His Leu Asp Gly Asn
          210          215          220
Val Leu Asp His Phe Ser Glu Leu Arg Ser Val Glu Gly Leu Gln Glu
          225          230          235          240
Gly Ser Val Leu Arg Val Val Glu Glu Pro Tyr Thr Val Arg Glu Ala
          245          250          255
Arg Ile His Val Arg His Val Arg Asp Leu Leu Lys Ser Leu Asp Pro
          260          265          270
Ser Asp Ala Phe Asn Gly Val Asp Cys Asn Ser Leu Ser Phe Leu Ser
          275          280          285
Val Phe Thr Asp Gly Asp Leu Gly Asp Ser Gly Lys Arg Lys Lys Gly
          290          295          300
Leu Glu Met Asp Pro Ile Asp Cys Thr Pro Pro Glu Tyr Ile Leu Pro
          305          310          315          320
Gly Ser Arg Glu Arg Pro Leu Cys Pro Leu Gln Pro Gln Asn Arg Asp
          325          330          335
Trp Lys Pro Leu Gln Cys Leu Lys Val Leu Thr Met Ser Gly Trp Asn
          340          345          350
Pro Pro Pro Gly Asn Arg Lys Met His Gly Asp Leu Met Tyr Leu Phe
          355          360          365
Val Ile Thr Ala Glu Asp Arg Gln Val Ser Ile Thr Ala Ser Thr Arg
          370          375          380
Gly Phe Tyr Leu Asn Gln Ser Thr Ala Tyr His Phe Asn Pro Lys Pro
          385          390          395          400
Ala Ser Pro Arg Phe Leu Ser His Ser Leu Val Glu Leu Leu Asn Gln
          405          410          415
Ile Ser Pro Thr Phe Lys Lys Asn Phe Ala Val Leu Gln Lys Lys Arg
          420          425          430
Val Gln Arg His Pro Phe Glu Arg Ile Ala Thr Pro Phe Gln Val Tyr
          435          440          445
Ser Trp Thr Ala Pro Gln Ala Glu His Ala Met Asp Cys Val Arg Ala
          450          455          460
Glu Asp Ala Tyr Thr Ser Arg Leu Gly Tyr Glu Glu His Ile Pro Gly
          465          470          475          480
Gln Thr Arg Asp Trp Asn Glu Glu Leu Gln Thr Thr Arg Glu Leu Pro
          485          490          495
Arg Lys Asn Leu Pro Glu Arg Leu Leu Arg Glu Arg Ala Ile Phe Lys

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4843

|   |      |      |
|---|------|------|
| 1010  | 1015 | 1020 |
| Asn Ile Cys Gln Glu Ala Lys Asn Tyr Phe Asp Phe Asp Leu Glu Cys |      |      |
| 1025  | 1030 | 1035 |
| Glu Thr Val Asp Gln Ala Val Glu Thr Tyr Gly Leu Gln Lys Ile Thr |      | 1040 |
|   | 1045 | 1050 |
| Leu Leu Arg Glu Ile Ser Leu Lys Thr Gly Ile Gln Val Leu Leu Lys |      | 1055 |
|   | 1060 | 1065 |
| Glu Tyr Ser Phe Asp Ser Arg His Lys Pro Ala Phe Thr Glu Glu Asp |      | 1070 |
|   | 1075 | 1080 |
| Val Leu Asn Ile Phe Pro Val Val Lys His Val Asn Pro Lys Ala Ser |      | 1085 |
|   | 1090 | 1095 |
| Asp Ala Phe His Phe Phe Gln Ser Gly Gln Ala Lys Val Gln Gln Gly |      | 1100 |
| 1105  | 1110 | 1115 |
| Phe Leu Lys Glu Gly Cys Glu Leu Ile Asn Glu Ala Leu Asn Leu Phe |      | 1120 |
|   | 1125 | 1130 |
| Asn Asn Val Tyr Gly Ala Met His Val Glu Thr Cys Ala Cys Leu Arg |      | 1135 |
|   | 1140 | 1145 |
| Leu Leu Ala Arg Leu His Tyr Ile Met Gly Asp Tyr Ala Glu Ala Leu |      | 1150 |
|   | 1155 | 1160 |
| Ser Asn Gln Gln Lys Ala Val Leu Met Ser Glu Arg Val Met Gly Thr |      | 1165 |
|   | 1170 | 1175 |
| Glu His Pro Asn Thr Ile Gln Glu Tyr Met His Leu Ala Leu Tyr Cys |      | 1180 |
| 1185  | 1190 | 1195 |
| Phe Ala Ser Ser Gln Leu Ser Thr Ala Leu Ser Leu Leu Tyr Arg Ala |      | 1200 |
|   | 1205 | 1210 |
| Arg Tyr Leu Met Leu Leu Val Phe Gly Glu Asp His Pro Glu Met Ala |      | 1215 |
|   | 1220 | 1225 |
| Leu Leu Asp Asn Asn Ile Gly Leu Val Leu His Gly Val Met Glu Tyr |      | 1230 |
|   | 1235 | 1240 |
| Asp Leu Ser Leu Arg Phe Leu Glu Asn Ala Leu Ala Val Ser Thr Lys |      | 1245 |
|   | 1250 | 1255 |
| Tyr His Gly Pro Lys Ala Leu Lys Val Ala Leu Ser His His Leu Val |      | 1260 |
| 1265  | 1270 | 1275 |
| Ala Arg Val Tyr Glu Ser Lys Ala Glu Phe Arg Ser Ala Leu Gln His |      | 1280 |
|   | 1285 | 1290 |
| Glu Lys Glu Gly Tyr Thr Ile Tyr Lys Thr Gln Leu Gly Glu Asp His |      | 1295 |
|   | 1300 | 1305 |
| Glu Lys Thr Lys Glu Ser Ser Glu Tyr Leu Lys Cys Leu Thr Gln Gln |      | 1310 |
|   | 1315 | 1320 |
| Ala Val Ala Leu Gln Arg Thr Met Asn Glu Ile Tyr Arg Asn Gly Ser |      | 1325 |
|   | 1330 | 1335 |
| Ser Ala Asn Ile Pro Pro Leu Lys Phe Thr Ala Pro Ser Met Ala Ser |      | 1340 |
| 1345  | 1350 | 1355 |
| Val Leu Glu Gln Leu Asn Val Ile Asn Gly Ile Leu Phe Ile Pro Leu |      | 1360 |
|   | 1365 | 1370 |
| Ser Gln Lys Asp Leu Glu Asn Leu Lys Ala Glu Val Ala Arg Arg His |      | 1375 |
|   | 1380 | 1385 |
| Gln Leu Gln Glu Ala Ser Arg Asn Arg Asp Arg Ala Glu Glu Pro Met |      | 1390 |
|   | 1395 | 1400 |
| Ala Thr Glu Pro Ala Pro Ala Gly Ala Pro Gly Asp Leu Gly Ser Gln |      | 1405 |
|   | 1410 | 1415 |
| Pro Pro Ala Ala Lys Asp Pro Ser Pro Ser Val Gln Gly             |      | 1420 |
| 1425  | 1430 | 1435 |
|   |      | 1437 |

&lt;210&gt; 3154

&lt;211&gt; 1222

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3154

Lys Phe Lys Leu Ile Lys Ile Met Leu Leu Thr Leu Ile Ile Leu Leu

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Pro Val Val Ser Lys Phe Ser Phe Val Ser Leu Ser Ala Pro Gln His |     |     |     |
| 20  | 25  | 30  |     |
| Trp Ser Cys Pro Glu Gly Thr Leu Ala Gly Asn Gly Asn Ser Thr Cys |     |     |     |
| 35  | 40  | 45  |     |
| Val Gly Pro Ala Pro Phe Leu Ile Phe Ser His Gly Asn Ser Ile Phe |     |     |     |
| 50  | 55  | 60  |     |
| Arg Ile Asp Thr Glu Gly Thr Asn Tyr Glu Gln Leu Val Val Asp Ala |     |     |     |
| 65  | 70  | 75  | 80  |
| Gly Val Ser Val Ile Met Asp Phe His Tyr Asn Glu Lys Arg Ile Tyr |     |     |     |
| 85  | 90  | 95  |     |
| Trp Val Asp Leu Glu Arg Gln Leu Leu Gln Arg Val Phe Leu Asn Gly |     |     |     |
| 100   | 105 | 110 |     |
| Ser Arg Gln Glu Arg Val Cys Asn Ile Glu Lys Asn Val Ser Gly Met |     |     |     |
| 115   | 120 | 125 |     |
| Ala Ile Asn Trp Ile Asn Glu Glu Val Ile Trp Ser Asn Gln Gln Glu |     |     |     |
| 130   | 135 | 140 |     |
| Gly Ile Ile Thr Val Thr Asp Met Lys Gly Asn Asn Ser His Ile Leu |     |     |     |
| 145   | 150 | 155 | 160 |
| Leu Ser Ala Leu Lys Tyr Pro Ala Asn Val Ala Val Asp Pro Val Glu |     |     |     |
| 165   | 170 | 175 |     |
| Arg Phe Ile Phe Trp Ser Ser Glu Val Ala Gly Ser Leu Tyr Arg Ala |     |     |     |
| 180   | 185 | 190 |     |
| Asp Leu Asp Gly Val Gly Val Lys Ala Leu Leu Glu Thr Ser Glu Lys |     |     |     |
| 195   | 200 | 205 |     |
| Ile Thr Ala Val Ser Leu Asp Val Leu Asp Lys Arg Leu Phe Trp Ile |     |     |     |
| 210   | 215 | 220 |     |
| Gln Tyr Asn Arg Glu Gly Ser Asn Ser Leu Ile Cys Ser Cys Asp Tyr |     |     |     |
| 225   | 230 | 235 | 240 |
| Asp Gly Gly Ser Val His Ile Ser Lys His Pro Thr Gln His Asn Leu |     |     |     |
| 245   | 250 | 255 |     |
| Phe Ala Met Ser Leu Phe Gly Asp Arg Ile Phe Tyr Ser Thr Trp Lys |     |     |     |
| 260   | 265 | 270 |     |
| Met Lys Thr Ile Trp Ile Ala Asn Lys His Thr Gly Lys Asp Met Val |     |     |     |
| 275   | 280 | 285 |     |
| Arg Ile Asn Leu His Ser Ser Phe Val Pro Leu Gly Glu Leu Lys Val |     |     |     |
| 290   | 295 | 300 |     |
| Val His Pro Leu Ala Gln Pro Lys Ala Glu Asp Asp Thr Trp Glu Pro |     |     |     |
| 305   | 310 | 315 | 320 |
| Glu Gln Lys Leu Cys Lys Leu Arg Lys Gly Asn Cys Ser Ser Thr Val |     |     |     |
| 325   | 330 | 335 |     |
| Cys Gly Gln Asp Leu Gln Ser His Leu Cys Met Cys Ala Glu Gly Tyr |     |     |     |
| 340   | 345 | 350 |     |
| Ala Leu Ser Arg Asp Arg Lys Tyr Cys Glu Gly Asn Asp Trp Lys Tyr |     |     |     |
| 355   | 360 | 365 |     |
| Cys Glu Asp Val Asn Glu Cys Ala Phe Trp Asn His Gly Cys Thr Leu |     |     |     |
| 370   | 375 | 380 |     |
| Gly Cys Lys Asn Thr Pro Gly Ser Tyr Tyr Cys Thr Cys Pro Val Gly |     |     |     |
| 385   | 390 | 395 | 400 |
| Phe Val Leu Leu Pro Asp Gly Lys Arg Cys His Gln Leu Val Ser Cys |     |     |     |
| 405   | 410 | 415 |     |
| Pro Arg Asn Val Ser Glu Cys Ser His Asp Cys Val Leu Thr Ser Glu |     |     |     |
| 420   | 425 | 430 |     |
| Gly Pro Leu Cys Phe Cys Pro Glu Gly Ser Val Leu Glu Arg Asp Gly |     |     |     |
| 435   | 440 | 445 |     |
| Lys Thr Cys Ser Gly Cys Ser Ser Pro Asp Asn Gly Gly Cys Ser Gln |     |     |     |
| 450   | 455 | 460 |     |
| Leu Cys Val Pro Leu Ser Pro Val Ser Trp Glu Cys Asp Cys Phe Pro |     |     |     |
| 465   | 470 | 475 | 480 |
| Gly Tyr Asp Leu Gln Leu Asp Glu Lys Ser Cys Ala Ala Ser Gly Pro |     |     |     |
| 485   | 490 | 495 |     |
| Gln Pro Phe Leu Leu Phe Ala Asn Ser Gln Asp Ile Arg His Met His |     |     |     |
| 500   | 505 | 510 |     |
| Phe Asp Gly Thr Asp Tyr Gly Thr Leu Leu Ser Gln Gln Met Gly Met |     |     |     |

|   |      |      |
|---|------|------|
| 515   | 520  | 525  |
| Val Tyr Ala Leu Asp His Asp Pro Val Glu Asn Lys Ile Tyr Phe Ala |      |      |
| 530   | 535  | 540  |
| His Thr Ala Leu Lys Trp Ile Glu Arg Ala Asn Met Asp Gly Ser Gln |      |      |
| 545   | 550  | 555  |
| Arg Glu Arg Leu Ile Glu Glu Gly Val Asp Val Pro Glu Gly Leu Ala |      |      |
| 565   | 570  | 575  |
| Val Asp Trp Ile Gly Arg Arg Phe Tyr Trp Thr Asp Arg Gly Lys Ser |      |      |
| 580   | 585  | 590  |
| Leu Ile Gly Arg Ser Asp Leu Asn Gly Lys Arg Ser Lys Ile Ile Thr |      |      |
| 595   | 600  | 605  |
| Ile Glu Asn Ile Ser Gln Pro Arg Gly Ile Ala Val His Pro Met Ala |      |      |
| 610   | 615  | 620  |
| Lys Arg Leu Phe Trp Thr Asp Thr Gly Ile Asn Pro Arg Ile Glu Ser |      |      |
| 625   | 630  | 635  |
| Ser Ser Leu Gln Gly Leu Gly Arg Leu Val Ile Ala Ser Ser Asp Leu |      |      |
| 645   | 650  | 655  |
| Ile Trp Pro Ser Gly Ile Thr Ile Asp Phe Leu Thr Asp Lys Leu Tyr |      |      |
| 660   | 665  | 670  |
| Trp Cys Asp Ala Lys Gln Ser Val Ile Glu Met Ala Asn Leu Asp Gly |      |      |
| 675   | 680  | 685  |
| Ser Lys Arg Arg Arg Leu Thr Gln Asn Asp Val Gly His Pro Phe Ala |      |      |
| 690   | 695  | 700  |
| Val Ala Val Phe Glu Asp Tyr Val Trp Phe Ser Asp Trp Ala Met Pro |      |      |
| 705   | 710  | 715  |
| Ser Val Ile Arg Val Asn Lys Arg Thr Gly Lys Asp Arg Val Arg Leu |      |      |
| 725   | 730  | 735  |
| Gln Gly Ser Met Leu Lys Pro Ser Ser Leu Val Val Val His Pro Leu |      |      |
| 740   | 745  | 750  |
| Ala Lys Pro Gly Ala Asp Pro Cys Leu Tyr Gln Asn Gly Gly Cys Glu |      |      |
| 755   | 760  | 765  |
| His Ile Cys Lys Lys Arg Leu Gly Thr Ala Trp Cys Ser Cys Arg Glu |      |      |
| 770   | 775  | 780  |
| Gly Phe Met Lys Ala Ser Asp Gly Lys Thr Cys Leu Ala Leu Asp Gly |      |      |
| 785   | 790  | 795  |
| His Gln Leu Leu Ala Gly Gly Glu Val Asp Leu Lys Asn Gln Val Thr |      |      |
| 805   | 810  | 815  |
| Pro Leu Asp Ile Leu Ser Lys Thr Arg Val Ser Glu Asp Asn Ile Thr |      |      |
| 820   | 825  | 830  |
| Glu Ser Gln His Met Leu Val Ala Glu Ile Met Val Ser Asp Gln Asp |      |      |
| 835   | 840  | 845  |
| Asp Cys Ala Pro Val Gly Cys Ser Met Tyr Ala Arg Cys Ile Ser Glu |      |      |
| 850   | 855  | 860  |
| Gly Glu Asp Ala Thr Cys Gln Cys Leu Lys Gly Phe Ala Gly Asp Gly |      |      |
| 865   | 870  | 875  |
| Lys Leu Cys Ser Asp Ile Asp Glu Cys Glu Met Gly Val Pro Val Cys |      |      |
| 885   | 890  | 895  |
| Pro Pro Ala Ser Ser Lys Cys Ile Asn Thr Glu Gly Gly Tyr Val Cys |      |      |
| 900   | 905  | 910  |
| Arg Cys Ser Glu Gly Tyr Gln Gly Asp Gly Ile His Cys Leu Asp Ile |      |      |
| 915   | 920  | 925  |
| Asp Glu Cys Gln Leu Gly Val His Ser Cys Gly Glu Asn Ala Ser Cys |      |      |
| 930   | 935  | 940  |
| Thr Asn Thr Glu Gly Gly Tyr Thr Cys Met Cys Ala Gly Arg Leu Ser |      |      |
| 945   | 950  | 955  |
| Glu Pro Gly Leu Ile Cys Pro Asp Ser Thr Pro Pro Pro His Leu Arg |      |      |
| 965   | 970  | 975  |
| Glu Asp Asp His His Tyr Ser Val Arg Asn Ser Asp Ser Glu Cys Pro |      |      |
| 980   | 985  | 990  |
| Leu Ser His Asp Gly Tyr Cys Leu His Asp Gly Val Cys Met Tyr Ile |      |      |
| 995   | 1000 | 1005 |
| Glu Ala Leu Asp Lys Tyr Ala Cys Asn Cys Val Val Gly Tyr Ile Gly |      |      |
| 1010  | 1015 | 1020 |
| Glu Arg Cys Gln Tyr Arg Asp Leu Lys Trp Trp Glu Leu Arg His Ala |      |      |

|   |      |      |      |
|---|------|------|------|
| 1025  | 1030 | 1035 | 1040 |
| Gly His Gly Gln Gln Gln Lys Val Ile Val Val Ala Val Cys Val Val |      |      |      |
|   | 1045 | 1050 | 1055 |
| Val Leu Val Met Leu Leu Leu Leu Ser Leu Trp Gly Ala His Tyr Tyr |      |      |      |
|   | 1060 | 1065 | 1070 |
| Arg Thr Gln Lys Leu Leu Ser Lys Asn Pro Lys Asn Pro Tyr Glu Glu |      |      |      |
|   | 1075 | 1080 | 1085 |
| Ser Ser Arg Asp Val Arg Ser Arg Arg Pro Ala Asp Thr Glu Asp Gly |      |      |      |
|   | 1090 | 1095 | 1100 |
| Met Ser Ser Cys Pro Gln Pro Trp Phe Val Val Ile Lys Glu His Gln |      |      |      |
| 1105  | 1110 | 1115 | 1120 |
| Asp Leu Lys Asn Gly Gly Gln Pro Val Ala Gly Glu Asp Gly Gln Ala |      |      |      |
|   | 1125 | 1130 | 1135 |
| Ala Asp Gly Ser Met Gln Pro Thr Ser Trp Arg Gln Glu Pro Gln Leu |      |      |      |
|   | 1140 | 1145 | 1150 |
| Cys Gly Met Gly Thr Glu Gln Gly Cys Trp Ile Pro Val Ser Ser Asp |      |      |      |
|   | 1155 | 1160 | 1165 |
| Lys Gly Ser Cys Pro Gln Val Met Glu Arg Ser Phe His Met Pro Ser |      |      |      |
|   | 1170 | 1175 | 1180 |
| Tyr Gly Thr Gln Thr Leu Glu Gly Gly Val Glu Lys Pro His Ser Leu |      |      |      |
| 1185  | 1190 | 1195 | 1200 |
| Leu Ser Ala Asn Pro Leu Trp Gln Gln Arg Ala Leu Asp Pro Pro His |      |      |      |
|   | 1205 | 1210 | 1215 |
| Gln Met Glu Leu Thr Gln   |      |      |      |
|   | 1220 | 1222 |      |

<210> 3155  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 3155

|   |     |     |     |
|---|-----|-----|-----|
| Gly Thr Ser Gly Trp Tyr Trp Glu Arg Leu Ala Glu Arg Arg Gly Arg |     |     |     |
| 1   | 5   | 10  | 15  |
| Leu Trp Ser Arg Glu Glu Ala Met Ala Thr Met Glu Asn Lys Val Ile |     |     |     |
|   | 20  | 25  | 30  |
| Cys Ala Leu Val Leu Val Ser Met Leu Ala Leu Gly Thr Leu Ala Glu |     |     |     |
|   | 35  | 40  | 45  |
| Ala Gln Thr Glu Thr Cys Thr Val Ala Pro Arg Glu Arg Gln Asn Cys |     |     |     |
|   | 50  | 55  | 60  |
| Gly Phe Pro Gly Val Thr Pro Ser Gln Cys Ala Asn Lys Gly Cys Cys |     |     |     |
|   | 65  | 70  | 75  |
| Phe Asp Asp Thr Val Arg Gly Val Pro Trp Cys Phe Tyr Pro Asn Thr |     |     |     |
|   | 85  | 90  | 95  |
| Ile Asp Val Pro Pro Glu Glu Glu Cys Glu Phe                     |     |     |     |
|   | 100 | 105 | 107 |

<210> 3156  
 <211> 527  
 <212> PRT  
 <213> Homo sapiens

<400> 3156

|   |    |    |    |
|---|----|----|----|
| Pro Arg Val Arg Ala Ala Asp Val Ala Ala Gly Ala Gln Ala Val Val |    |    |    |
| 1   | 5  | 10 | 15 |
| Ser Ala Gly Met Ala Lys Ser Asn Gly Glu Asn Gly Pro Arg Ala Pro |    |    |    |
|   | 20 | 25 | 30 |
| Ala Ala Gly Glu Ser Leu Ser Gly Thr Arg Glu Ser Leu Ala Gln Gly |    |    |    |

4848



<210> 3157  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 3157  
 Ser Ser Ala Met Gly Ser Arg Ser Ser His Ala Ala Val Ile Pro Asp  
 1 5 10 15  
 Gly Asp Ser Ile Arg Arg Glu Thr Gly Phe Ser Gln Ala Ser Leu Leu  
 20 25 30  
 Arg Leu His His Arg Phe Arg Ala Leu Asp Arg Asn Lys Lys Gly Tyr  
 35 40 45  
 Leu Ser Arg Met Asp Leu Gln Gln Ile Gly Ala Leu Ala Val Asn Pro  
 50 55 60  
 Leu Gly Asp Arg Ile Ile Glu Ser Phe Phe Pro Asp Gly Ser Gln Arg  
 65 70 75 80  
 Val Asp Phe Pro Gly Phe Val Arg Val Leu Ala His Phe Arg Pro Val  
 85 90 95  
 Glu Asp Glu Asp Thr Glu Thr Gln Asp Pro Lys Lys Pro Glu Pro Leu  
 100 105 110  
 Asn Ser Arg Arg Asn Lys Leu His Tyr Ala Phe Gln Leu Tyr Asp Leu  
 115 120 125  
 Asp Arg Asp Gly Lys Ile Ser Arg His Glu Met Leu Gln Val Leu Arg  
 130 135 140  
 Leu Met Val Gly Val Gln Val Thr Glu Glu Gln Leu Glu Asn Ile Ala  
 145 150 155 160  
 Asp Arg Thr Val Gln Glu Ala Asp Glu Asp Gly Asp Gly Ala Val Ser  
 165 170 175  
 Phe Val Glu Phe Thr Lys Ser Leu Glu Lys Met Asp Val Glu His Lys  
 180 185 190  
 Met Ser Ile Arg Ile Leu Lys  
 195 199

<210> 3158  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 3158  
 Ile Ser Ser Cys Pro His Thr Ala Tyr Glu Gly Ser Met Ser Thr Leu  
 1 5 10 15  
 Ser Asn Phe Thr Gln Thr Leu Glu Asp Val Phe Arg Arg Ile Phe Ile  
 20 25 30  
 Thr Tyr Met Asp Asn Trp Arg Gln Asn Thr Thr Ala Glu Gln Glu Ala  
 35 40 45  
 Leu Gln Ala Lys Val Asp Ala Glu Asn Phe Tyr Tyr Val Ile Leu Tyr  
 50 55 60  
 Leu Met Val Met Ile Gly Met Phe Ser Phe Ile Ile Val Ala Ile Leu  
 65 70 75 80  
 Val Ser Thr Val Lys Ser Lys Arg Arg Glu His Ser Asn Asp Pro Tyr  
 85 90 95  
 His Gln Tyr Ile Val Glu Asp Trp Gln Glu Lys Tyr Lys Ser Gln Ile  
 100 105 110  
 Leu Asn Leu Glu Glu Ser Lys Ala Thr Ile His Glu Asn Ile Gly Ala  
 115 120 125  
 Ala Gly Phe Lys Met Ser Pro  
 130 135

<210> 3159  
 <211> 137  
 <212> PRT  
 <213> Homo sapiens

<400> 3159  
 Pro Trp Gly Ala Ala Glu Leu Asp Met Gly Arg Arg Asp Ala Gln Leu  
   1                  5                  10                  15  
 Leu Ala Ala Leu Leu Val Leu Gly Leu Cys Ala Leu Ala Gly Ser Glu  
                   20                  25                  30  
 Lys Pro Ser Pro Cys Gln Cys Ser Arg Leu Ser Pro His Asn Arg Thr  
                   35                  40                  45  
 Asn Cys Gly Phe Pro Gly Ile Thr Ser Asp Gln Cys Phe Asp Asn Gly  
                   50                  55                  60  
 Cys Cys Phe Asp Ser Ser Val Thr Gly Val Pro Trp Cys Phe His Pro  
                   65                  70                  75                  80  
 Leu Pro Lys Gln Glu Ser Asp Gln Cys Val Met Glu Val Ser Asp Arg  
                   85                  90                  95  
 Arg Asn Cys Gly Tyr Pro Gly Ile Ser Pro Glu Glu Cys Ala Ser Arg  
                   100                  105                  110  
 Lys Cys Cys Phe Ser Asn Phe Ile Phe Glu Val Pro Trp Cys Phe Phe  
                   115                  120                  125  
 Pro Lys Ser Val Glu Asp Cys His Tyr  
                   130                  135                  137

<210> 3160  
 <211> 76  
 <212> PRT  
 <213> Homo sapiens

<400> 3160  
 Lys Pro Lys Thr Lys Ile Leu Lys Met Val Tyr Tyr Pro Glu Leu Phe  
   1                  5                  10                  15  
 Val Trp Val Ser Gln Glu Pro Phe Pro Asn Lys Asp Met Glu Gly Arg  
                   20                  25                  30  
 Leu Pro Lys Gly Arg Leu Pro Val Pro Lys Glu Val Asn Arg Lys Lys  
                   35                  40                  45  
 Asn Asp Glu Thr Asn Ala Ala Ser Leu Thr Pro Leu Gly Ser Ser Glu  
                   50                  55                  60  
 Leu Arg Ser Pro Arg Ile Ser Tyr Leu His Phe Phe  
                   65                  70                  75                  76

<210> 3161  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

<400> 3161  
 Leu Ser Ser Thr Gly Gly Leu His Ala Ala Ala Cys Ala Ala Ala Met  
   1                  5                  10                  15  
 Ser Leu Val Ile Pro Glu Lys Phe Gln His Ile Leu Arg Val Leu Asn  
                   20                  25                  30  
 Thr Asn Ile Asp Gly Arg Arg Lys Ile Ala Phe Ala Ile Thr Ala Ile  
                   35                  40                  45  
 Lys Gly Val Gly Arg Arg Tyr Ala His Val Val Leu Arg Lys Ala Asp  
                   50                  55                  60  
 Ile Asp Leu Thr Lys Arg Ala Gly Glu Leu Thr Glu Asp Glu Val Glu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Val | Ile | Thr | Ile | Met | Gln | Asn | Pro | Arg | Gln | Tyr | Lys | Ile | Pro | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Trp | Phe | Leu | Asn | Arg | Gln | Lys | Asp | Val | Lys | Asp | Gly | Lys | Tyr | Ser | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Leu | Ala | Asn | Gly | Leu | Asp | Asn | Lys | Leu | Arg | Glu | Asp | Leu | Glu | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Lys | Lys | Ile | Arg | Ala | His | Arg | Gly | Leu | Arg | His | Phe | Trp | Gly | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Val | Arg | Gly | Gln | His | Thr | Lys | Thr | Thr | Gly | Arg | Arg | Gly | Arg | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Gly | Val | Ser | Lys | Lys | Lys |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     | 167 |     |     |     |     |     |     |     |     |     |

<210> 3162  
 <211> 646  
 <212> PRT  
 <213> Homo sapiens

<400> 3162

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Met | Pro | Arg | Ser | Arg | Gly | Gly | Arg | Ala | Ala | Pro | Gly | Pro | Pro | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Pro | Pro | Pro | Pro | Gly | Gln | Ala | Pro | Arg | Trp | Ser | Arg | Trp | Arg | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Gly | Arg | Leu | Leu | Leu | Leu | Leu | Leu | Pro | Ala | Leu | Cys | Cys | Leu | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gly | Ala | Ala | Arg | Ala | Ala | Ala | Ala | Ala | Ala | Gly | Ala | Gly | Asn | Arg | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Val | Ala | Val | Ala | Val | Ala | Arg | Ala | Asp | Glu | Ala | Glu | Ala | Pro | Phe |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Ala | Gly | Gln | Asn | Trp | Leu | Lys | Ser | Tyr | Gly | Tyr | Leu | Leu | Pro | Tyr | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Arg | Ala | Ser | Ala | Leu | His | Ser | Ala | Lys | Ala | Leu | Gln | Ser | Ala | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ser | Thr | Met | Gln | Gln | Phe | Tyr | Gly | Ile | Pro | Val | Thr | Gly | Val | Leu | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Thr | Thr | Ile | Glu | Trp | Met | Lys | Lys | Pro | Arg | Cys | Gly | Val | Pro | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Pro | His | Leu | Ser | Arg | Arg | Arg | Arg | Asn | Lys | Arg | Tyr | Ala | Leu | Thr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Gly | Gln | Lys | Trp | Arg | Gln | Lys | His | Ile | Thr | Tyr | Ser | Ile | His | Asn | Tyr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Thr | Pro | Lys | Val | Gly | Glu | Leu | Asp | Thr | Arg | Lys | Ala | Ile | Arg | Gln | Ala |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Phe | Asp | Val | Trp | Gln | Lys | Val | Thr | Pro | Leu | Thr | Phe | Glu | Glu | Val | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Tyr | His | Glu | Ile | Lys | Ser | Asp | Arg | Lys | Glu | Ala | Asp | Ile | Met | Ile | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Phe | Ala | Ser | Gly | Phe | His | Gly | Asp | Ser | Ser | Pro | Phe | Asp | Gly | Glu | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Phe | Leu | Ala | His | Ala | Tyr | Phe | Pro | Gly | Pro | Gly | Ile | Gly | Gly | Asp |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Thr | His | Phe | Asp | Ser | Asp | Glu | Pro | Trp | Thr | Leu | Gly | Asn | Ala | Asn | His |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Asp | Gly | Asn | Asp | Leu | Phe | Leu | Val | Ala | Val | His | Glu | Leu | Gly | His | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Gly | Leu | Glu | His | Ser | Ser | Asp | Pro | Ser | Ala | Ile | Met | Ala | Pro | Phe |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Tyr | Gln | Tyr | Met | Glu | Thr | His | Asn | Phe | Lys | Leu | Pro | Gln | Asp | Asp | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Gly | Ile | Gln | Lys | Ile | Tyr | Gly | Pro | Pro | Ala | Glu | Pro | Leu | Glu | Pro |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Thr | Arg | Pro | Leu | Pro | Thr | Leu | Pro | Val | Arg | Arg | Ile | His | Ser | Pro | Ser |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Glu | Arg | Lys | His | Glu | Arg | Gln | Pro | Arg | Pro | Pro | Arg | Pro | Pro | Leu | Gly |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Asp | Arg | Pro | Ser | Thr | Pro | Gly | Thr | Lys | Pro | Asn | Ile | Cys | Asp | Gly | Asn |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Phe | Asn | Thr | Val | Ala | Leu | Phe | Arg | Gly | Glu | Met | Phe | Val | Phe | Lys | Asp |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Arg | Trp | Phe | Trp | Arg | Leu | Arg | Asn | Asn | Arg | Val | Gln | Glu | Gly | Tyr | Pro |  |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |  |  |
| Met | Gln | Ile | Glu | Gln | Phe | Trp | Lys | Gly | Leu | Pro | Ala | Arg | Ile | Asp | Ala |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     |     | 430 |     |  |  |
| Ala | Tyr | Glu | Arg | Ala | Asp | Gly | Arg | Phe | Val | Phe | Phe | Lys | Gly | Asp | Lys |  |  |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |  |  |
| Tyr | Trp | Val | Phe | Lys | Glu | Val | Thr | Val | Glu | Pro | Gly | Tyr | Pro | His | Ser |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Leu | Gly | Glu | Leu | Gly | Ser | Cys | Leu | Pro | Arg | Glu | Gly | Ile | Asp | Thr | Ala |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Leu | Arg | Trp | Glu | Pro | Val | Gly | Lys | Thr | Tyr | Phe | Phe | Lys | Gly | Glu | Arg |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |  |  |
| Tyr | Trp | Arg | Tyr | Ser | Glu | Glu | Arg | Arg | Ala | Thr | Asp | Pro | Gly | Tyr | Pro |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Lys | Pro | Ile | Thr | Val | Trp | Lys | Gly | Ile | Pro | Gln | Ala | Pro | Gln | Gly | Ala |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Phe | Ile | Ser | Lys | Glu | Gly | Tyr | Tyr | Thr | Tyr | Phe | Tyr | Lys | Gly | Arg | Asp |  |  |
|     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |     |  |  |
| Tyr | Trp | Lys | Phe | Asp | Asn | Gln | Lys | Leu | Ser | Val | Glu | Pro | Gly | Tyr | Pro |  |  |
| 545 |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     |     | 560 |  |  |
| Arg | Asn | Ile | Leu | Arg | Asp | Trp | Met | Gly | Cys | Asn | Gln | Lys | Glu | Val | Glu |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |  |
| Arg | Arg | Lys | Glu | Arg | Arg | Leu | Pro | Gln | Asp | Asp | Val | Asp | Ile | Met | Val |  |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     |     | 590 |     |  |  |
| Thr | Ile | Asn | Asp | Val | Pro | Gly | Ser | Val | Asn | Ala | Val | Ala | Val | Val | Ile |  |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |  |
| Pro | Cys | Ile | Leu | Ser | Leu | Cys | Ile | Leu | Val | Leu | Val | Tyr | Thr | Ile | Phe |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Gln | Phe | Lys | Asn | Lys | Thr | Gly | Pro | Gln | Pro | Val | Thr | Tyr | Tyr | Lys | Arg |  |  |
| 625 |     |     |     | 630 |     |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Pro | Val | Gln | Glu | Trp | Val |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 645 | 646 |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3163  
 <211> 329  
 <212> PRT  
 <213> Homo sapiens

<400> 3163  
 Ser Arg Leu Ser Leu Gln Phe Tyr Val Ser Phe Arg Arg Thr Gly Leu  
 1 5 10 15  
 Phe Thr Cys Lys Leu Ile Val Glu Ile Phe Phe Arg Asn Tyr Met Asn  
 20 25 30  
 Asp Ser Leu Arg Thr Asn Val Phe Val Arg Phe Gln Pro Glu Thr Ile  
 35 40 45  
 Ala Cys Ala Cys Ile Tyr Leu Ala Ala Arg Ala Leu Gln Ile Pro Leu  
 50 55 60  
 Pro Thr Arg Pro His Trp Phe Leu Leu Phe Gly Thr Thr Glu Glu Glu  
 65 70 75 80  
 Ile Gln Glu Ile Cys Ile Glu Thr Leu Arg Leu Tyr Thr Arg Lys Lys  
 85 90 95  
 Pro Asn Tyr Glu Leu Leu Glu Lys Glu Val Glu Lys Arg Lys Val Ala

|   |     |     |
|---|-----|-----|
| 100   | 105 | 110 |
| Leu Gln Glu Ala Lys Leu Lys Ala Lys Gly Leu Asn Pro Asp Gly Thr |     |     |
| 115   | 120 | 125 |
| Pro Ala Leu Ser Thr Leu Gly Gly Phe Ser Pro Ala Ser Lys Pro Ser |     |     |
| 130   | 135 | 140 |
| Ser Pro Arg Glu Val Lys Ala Glu Glu Lys Ser Pro Ile Ser Ile Asn |     |     |
| 145   | 150 | 155 |
| Val Lys Thr Val Lys Lys Glu Pro Glu Asp Arg Gln Gln Ala Ser Lys |     |     |
| 165   | 170 | 175 |
| Ser Pro Tyr Asn Gly Val Arg Lys Asp Ser Lys Arg Ser Arg Asn Ser |     |     |
| 180   | 185 | 190 |
| Arg Ser Ala Ser Arg Ser Arg Ser Arg Thr Arg Ser Arg Ser Arg Ser |     |     |
| 195   | 200 | 205 |
| His Thr Pro Arg Arg His Tyr Asn Asn Arg Arg Ser Arg Ser Gly Thr |     |     |
| 210   | 215 | 220 |
| Tyr Ser Ser Arg Ser Arg Ser Arg Ser Arg Ser His Ser Glu Ser Pro |     |     |
| 225   | 230 | 235 |
| Arg Arg His His Asn His Gly Ser Pro His Leu Lys Ala Lys His Thr |     |     |
| 245   | 250 | 255 |
| Arg Asp Asp Leu Lys Ser Ser Asn Arg His Gly His Lys Arg Lys Lys |     |     |
| 260   | 265 | 270 |
| Ser Arg Ser Arg Ser Gln Ser Lys Ser Arg Asp His Ser Asp Ala Ala |     |     |
| 275   | 280 | 285 |
| Lys Lys His Arg His Glu Arg Gly His His Arg Asp Arg Arg Glu Arg |     |     |
| 290   | 295 | 300 |
| Ser Arg Ser Phe Glu Arg Ser His Lys Ser Lys His His Gly Gly Ser |     |     |
| 305   | 310 | 315 |
| Arg Ser Gly His Gly Arg His Arg Arg                             |     | 320 |
| 325   | 329 |     |

<210> 3164  
 <211> 1090  
 <212> PRT  
 <213> Homo sapiens

<400> 3164

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| Asp Cys Arg Leu Gln Ala Ala Met Pro Thr Asn Phe Thr Val Val Pro | 1   | 5   | 10  | 15  |
| Val Glu Ala His Ala Asp Gly Gly Gly Asp Glu Thr Ala Glu Arg Thr | 20  | 25  | 30  |     |
| Glu Ala Pro Gly Thr Pro Glu Gly Pro Glu Pro Glu Arg Pro Ser Pro | 35  | 40  | 45  |     |
| Gly Asp Gly Asn Pro Arg Glu Asn Ser Pro Phe Leu Asn Asn Val Glu | 50  | 55  | 60  |     |
| Val Glu Gln Glu Ser Phe Phe Glu Gly Lys Asn Met Ala Leu Phe Glu | 65  | 70  | 75  | 80  |
| Glu Glu Met Asp Ser Asn Pro Met Val Ser Ser Leu Leu Asn Lys Leu | 85  | 90  | 95  |     |
| Ala Asn Tyr Thr Asn Leu Ser Gln Gly Val Val Glu His Glu Glu Asp | 100 | 105 | 110 |     |
| Glu Glu Ser Arg Arg Arg Glu Ala Lys Ala Pro Arg Met Gly Thr Phe | 115 | 120 | 125 |     |
| Ile Gly Val Tyr Leu Pro Cys Leu Gln Asn Ile Leu Gly Val Ile Leu | 130 | 135 | 140 |     |
| Phe Leu Arg Leu Thr Trp Ile Val Gly Val Ala Gly Val Leu Glu Ser | 145 | 150 | 155 | 160 |
| Phe Leu Ile Val Ala Met Cys Cys Thr Cys Thr Met Leu Thr Ala Ile | 165 | 170 | 175 |     |
| Ser Met Ser Ala Ile Ala Thr Asn Gly Val Val Pro Ala Gly Gly Ser | 180 | 185 | 190 |     |
| Tyr Tyr Met Ile Ser Arg Ser Leu Gly Pro Glu Phe Gly Gly Ala Val |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Gly | Leu | Cys | Phe | Tyr | Leu | Gly | Thr | Thr | Phe | Ala | Gly | Ala | Met | Tyr | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Gly | Thr | Ile | Glu | Ile | Phe | Leu | Thr | Tyr | Ile | Ser | Pro | Gly | Ala | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Phe | Gln | Ala | Glu | Ala | Ala | Gly | Gly | Glu | Ala | Ala | Ala | Met | Leu | His |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asn | Met | Arg | Val | Tyr | Gly | Thr | Cys | Thr | Leu | Val | Leu | Met | Ala | Leu | Val |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Phe | Val | Gly | Val | Lys | Tyr | Val | Asn | Lys | Leu | Ala | Leu | Val | Phe | Leu |
|     | 275 |     |     |     |     |     | 280 |     |     |     | 285 |     |     |     |     |
| Ala | Cys | Val | Val | Leu | Ser | Ile | Leu | Ala | Ile | Tyr | Ala | Gly | Val | Ile | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Ser | Ala | Phe | Asp | Pro | Pro | Asp | Ile | Pro | Val | Cys | Leu | Leu | Gly | Asn | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Thr | Leu | Ser | Arg | Arg | Ser | Phe | Asp | Ala | Cys | Val | Lys | Ala | Tyr | Gly | Ile |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| His | Asn | Asn | Ser | Ala | Thr | Ser | Ala | Leu | Trp | Gly | Leu | Phe | Cys | Asn | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ser | Gln | Pro | Ser | Ala | Ala | Cys | Asp | Glu | Tyr | Phe | Ile | Gln | Asn | Asn | Val |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Thr | Glu | Ile | Gln | Gly | Ile | Pro | Gly | Ala | Ala | Ser | Gly | Val | Phe | Leu | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Asn | Leu | Trp | Ser | Thr | Tyr | Ala | His | Ala | Gly | Ala | Phe | Val | Glu | Lys | Lys |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Gly | Val | Pro | Ser | Val | Pro | Val | Ala | Glu | Glu | Ser | Arg | Ala | Ser | Thr | Leu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Pro | Tyr | Val | Leu | Thr | Asp | Ile | Ala | Ala | Ser | Phe | Thr | Leu | Leu | Val | Gly |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ile | Tyr | Phe | Pro | Ser | Val | Thr | Gly | Ile | Met | Ala | Gly | Ser | Asn | Arg | Ser |
|     | 435 |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |     |
| Gly | Asp | Leu | Lys | Asp | Ala | Gln | Lys | Ser | Ile | Pro | Thr | Gly | Thr | Ile | Leu |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ala | Ile | Val | Thr | Thr | Ser | Phe | Ile | Tyr | Leu | Ser | Cys | Ile | Val | Leu | Phe |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Gly | Ala | Cys | Ile | Glu | Gly | Val | Val | Leu | Arg | Asp | Lys | Phe | Gly | Glu | Ala |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Gln | Gly | Asn | Leu | Val | Ile | Gly | Met | Leu | Ala | Trp | Pro | Ser | Pro | Trp |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Val | Ile | Val | Ile | Gly | Ser | Phe | Phe | Ser | Thr | Cys | Gly | Ala | Gly | Leu | Gln |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Thr | Leu | Thr | Gly | Ala | Pro | Arg | Leu | Leu | Gln | Ala | Ile | Ala | Arg | Asp | Gly |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Ile | Val | Pro | Phe | Leu | Gln | Val | Phe | Gly | His | Gly | Lys | Ala | Asn | Gly | Glu |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Pro | Thr | Trp | Ala | Leu | Leu | Leu | Thr | Val | Leu | Ile | Cys | Glu | Thr | Gly | Ile |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Leu | Ile | Ala | Ser | Leu | Asp | Ser | Val | Ala | Pro | Ile | Leu | Ser | Met | Phe | Phe |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Leu | Met | Cys | Tyr | Leu | Phe | Val | Asn | Leu | Ala | Cys | Ala | Val | Gln | Thr | Leu |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Leu | Arg | Thr | Pro | Asn | Trp | Arg | Pro | Arg | Phe | Lys | Phe | Tyr | His | Trp | Thr |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Leu | Ser | Phe | Leu | Gly | Met | Ser | Leu | Cys | Leu | Ala | Leu | Met | Phe | Ile | Cys |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Ser | Trp | Tyr | Tyr | Ala | Leu | Ser | Ala | Met | Leu | Ile | Ala | Gly | Cys | Ile | Tyr |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Lys | Tyr | Ile | Glu | Tyr | Arg | Gly | Ala | Glu | Lys | Glu | Trp | Gly | Asp | Gly | Ile |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
| Arg | Gly | Leu | Ser | Leu | Asn | Ala | Ala | Arg | Tyr | Ala | Leu | Leu | Arg | Val | Glu |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| His | Gly | Pro | Pro | His | Thr | Lys | Asn | Trp | Arg | Pro | Gln | Val | Leu | Val | Met |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Leu | Asn | Leu | Asp | Ala | Glu | Gln | Ala | Met | Lys | His | Pro | Arg | Leu | Leu | Ser |



|   |   |                 |         |     |  |      |
|---|---|-----------------|---------|-----|--|------|
| 705   |   | 710             |         | 715 |  | 720  |
| Phe Thr Ser Gln   | Leu Lys Ala Gly Lys Gly                         | Leu Thr Ile Val | Gly Ser |     |  |      |
|   | 725   |                 | 730     |     |  | 735  |
| Val Leu Glu Gly   | Thr Tyr Leu Asp Lys His Met Glu Ala Gln Arg Ala |                 |         |     |  |      |
|   | 740   |                 | 745     |     |  | 750  |
| Glu Glu Asn Ile Arg Ser Leu Met Ser Thr Glu Lys Thr Lys Gly Phe |   |                 |         |     |  |      |
|   | 755   |                 | 760     |     |  | 765  |
| Cys Gln Leu Val Val Ser Ser Ser Leu Arg Asp Gly Met Ser His Leu |   |                 |         |     |  |      |
|   | 770   |                 | 775     |     |  | 780  |
| Ile Gln Ser Ala Gly Leu Gly Gly Leu Lys His Asn Thr Val Leu Met |   |                 |         |     |  |      |
|   | 785   |                 | 790     |     |  | 795  |
| Ala Trp Pro Ala Ser Trp Lys Gln Glu Asp Asn Pro Phe Ser Trp Lys |   |                 |         |     |  |      |
|   | 805   |                 | 810     |     |  | 815  |
| Asn Phe Val Asp Thr Val Arg Asp Thr Thr Ala Ala His Gln Ala Leu |   |                 |         |     |  |      |
|   | 820   |                 | 825     |     |  | 830  |
| Leu Val Ala Lys Asn Val Asp Ser Phe Pro Gln Asn Gln Glu Arg Phe |   |                 |         |     |  |      |
|   | 835   |                 | 840     |     |  | 845  |
| Gly Gly Gly His Ile Asp Val Trp Trp Ile Val His Asp Gly Gly Met |   |                 |         |     |  |      |
|   | 850   |                 | 855     |     |  | 860  |
| Leu Met Leu Leu Pro Phe Leu Leu Arg Gln His Lys Val Trp Arg Lys |   |                 |         |     |  |      |
|   | 865   |                 | 870     |     |  | 875  |
| Cys Arg Met Arg Ile Phe Thr Val Ala Gln Val Asp Asp Asn Ser Ile |   |                 |         |     |  |      |
|   | 885   |                 | 890     |     |  | 895  |
| Gln Met Lys Lys Asp Leu Gln Met Phe Leu Tyr His Leu Arg Ile Ser |   |                 |         |     |  |      |
|   | 900   |                 | 905     |     |  | 910  |
| Ala Glu Val Glu Val Val Glu Met Val Glu Asn Asp Ile Ser Ala Phe |   |                 |         |     |  |      |
|   | 915   |                 | 920     |     |  | 925  |
| Thr Tyr Glu Arg Thr Leu Met Met Glu Gln Arg Ser Gln Met Leu Lys |   |                 |         |     |  |      |
|   | 930   |                 | 935     |     |  | 940  |
| Gln Met Gln Leu Ser Lys Asn Glu Gln Glu Arg Glu Ala Gln Leu Ile |   |                 |         |     |  |      |
|   | 945   |                 | 950     |     |  | 955  |
| His Asp Arg Asn Thr Ala Ser His Thr Ala Ala Ala Ala Arg Thr Gln |   |                 |         |     |  |      |
|   | 965   |                 | 970     |     |  | 975  |
| Ala Pro Pro Thr Pro Asp Lys Val Gln Met Thr Trp Thr Arg Glu Lys |   |                 |         |     |  |      |
|   | 980   |                 | 985     |     |  | 990  |
| Leu Ile Ala Glu Lys Tyr Arg Ser Arg Asp Thr Ser Leu Ser Gly Phe |   |                 |         |     |  |      |
|   | 995   |                 | 1000    |     |  | 1005 |
| Lys Asp Leu Phe Ser Met Lys Pro Asp Gln Ser Asn Val Arg Arg Met |   |                 |         |     |  |      |
|   | 1010  |                 | 1015    |     |  | 1020 |
| His Thr Ala Val Lys Leu Asn Gly Val Val Leu Asn Lys Ser Gln Asp |   |                 |         |     |  |      |
|   | 1025  |                 | 1030    |     |  | 1035 |
| Ala Gln Leu Val Leu Leu Asn Met Pro Gly Pro Pro Lys Asn Arg Gln |   |                 |         |     |  |      |
|   | 1045  |                 | 1050    |     |  | 1055 |
| Gly Asp Glu Asn Tyr Met Glu Phe Leu Glu Val Leu Thr Glu Gly Leu |   |                 |         |     |  |      |
|   | 1060  |                 | 1065    |     |  | 1070 |
| Asn Arg Val Leu Leu Val Arg Gly Gly Gly Arg Glu Val Ile Thr Ile |   |                 |         |     |  |      |
|   | 1075  |                 | 1080    |     |  | 1085 |
| Tyr Ser   |   |                 |         |     |  |      |
| 1090  |   |                 |         |     |  |      |

&lt;210&gt; 3165

&lt;211&gt; 893

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3165

|   |  |  |    |  |  |  |    |  |  |  |  |  |    |  |
|---|--|--|----|--|--|--|----|--|--|--|--|--|----|--|
| Gly Arg Gly Ala Arg Gly Gly Ser Gly Ala Gly Ala Leu Arg Gly Cys |  |  |    |  |  |  |    |  |  |  |  |  |    |  |
| 1   |  |  | 5  |  |  |  | 10 |  |  |  |  |  | 15 |  |
| Arg Gly Tyr Leu Gln Lys Leu Ser Gly Lys Gly Pro Ser Arg Gly Tyr |  |  |    |  |  |  |    |  |  |  |  |  |    |  |
|   |  |  | 20 |  |  |  | 25 |  |  |  |  |  | 30 |  |
| Arg Ser Arg Trp Phe Val Phe Asp Ala Arg Arg Cys Tyr Leu Tyr Tyr |  |  |    |  |  |  |    |  |  |  |  |  |    |  |

4856

|                 |                     |                     |             |     |     |     |
|-----------------|---------------------|---------------------|-------------|-----|-----|-----|
| 545             |                     | 550                 |             | 555 |     | 560 |
| Glu Gln Ala Phe | Val Lys Pro His Leu | Val Ser Glu Tyr Asp | Ile Tyr     |     |     |     |
|                 | 565                 |                     | 570         |     | 575 |     |
| Gly Phe Arg Thr | Val Pro Glu Asp Asp | Glu Glu Glu Lys     | Leu Val Ala |     |     |     |
|                 | 580                 |                     | 585         |     | 590 |     |
| Lys Val Arg Ala | Leu Asp Leu Lys Thr | Leu Tyr Leu Thr     | Glu Asn Gln |     |     |     |
|                 | 595                 |                     | 600         |     | 605 |     |
| Glu Val Ser Thr | Gly Val Lys Trp Glu | Asn Tyr Phe Ala     | Ser Thr Val |     |     |     |
|                 | 610                 |                     | 615         |     | 620 |     |
| Asn Arg Glu Met | Met Cys Ser Pro Glu | Leu Lys Asn Leu     | Ile Arg Ala |     |     |     |
|                 | 625                 |                     | 630         |     | 635 |     |
| Gly Ile Pro His | Glu His Arg Ser Lys | Val Trp Lys Trp     | Cys Val Asp |     |     |     |
|                 | 645                 |                     | 650         |     | 655 |     |
| Arg His Thr Arg | Lys Phe Lys Asp     | Asn Thr Glu Pro     | Gly His Phe | Gln |     |     |
|                 | 660                 |                     | 665         |     | 670 |     |
| Thr Leu Leu Gln | Lys Ala Leu Glu     | Lys Gln Asn Pro     | Ala Ser Lys | Gln |     |     |
|                 | 675                 |                     | 680         |     | 685 |     |
| Ile Glu Leu Asp | Leu Leu Arg Thr     | Leu Pro Asn Asn     | Lys His Tyr | Ser |     |     |
|                 | 690                 |                     | 695         |     | 700 |     |
| Cys Pro Thr Ser | Glu Gly Ile Gln     | Lys Leu Arg Asn     | Val Leu Leu | Ala |     |     |
|                 | 705                 |                     | 710         |     | 715 |     |
| Phe Ser Trp Arg | Asn Pro Asp Ile     | Gly Tyr Cys Gln     | Gly Leu Asn | Arg |     |     |
|                 | 725                 |                     | 730         |     | 735 |     |
| Leu Val Ala Val | Ala Leu Leu Tyr     | Leu Glu Gln Glu     | Asp Ala Phe | Trp |     |     |
|                 | 740                 |                     | 745         |     | 750 |     |
| Cys Leu Val Thr | Ile Val Glu Val     | Phe Met Pro Arg     | Asp Tyr Tyr | Thr |     |     |
|                 | 755                 |                     | 760         |     | 765 |     |
| Lys Thr Leu Leu | Gly Ser Gln Val     | Asp Gln Arg Val     | Phe Arg Asp | Leu |     |     |
|                 | 770                 |                     | 775         |     | 780 |     |
| Met Ser Glu Lys | Leu Pro Arg Leu     | His Gly His Phe     | Glu Gln Tyr | Lys |     |     |
|                 | 785                 |                     | 790         |     | 795 |     |
| Val Asp Tyr Thr | Leu Ile Thr Phe     | Asn Trp Phe Leu     | Val Val Phe | Val |     |     |
|                 | 805                 |                     | 810         |     | 815 |     |
| Asp Ser Val Val | Ser Asp Ile Leu     | Phe Lys Ile Trp     | Asp Ser Phe | Leu |     |     |
|                 | 820                 |                     | 825         |     | 830 |     |
| Tyr Glu Gly Pro | Lys Val Ile Phe     | Arg Phe Ala Leu     | Ala Leu Phe | Lys |     |     |
|                 | 835                 |                     | 840         |     | 845 |     |
| Tyr Lys Glu Glu | Glu Ile Leu Lys     | Leu Gln Asp Ser     | Met Ser Ile | Phe |     |     |
|                 | 850                 |                     | 855         |     | 860 |     |
| Lys Tyr Leu Arg | Tyr Phe Thr Arg     | Thr Ile Leu Asp     | Ala Arg Ser | Gly |     |     |
|                 | 865                 |                     | 870         |     | 875 |     |
| Thr Asp Ala Pro | Thr Thr Trp Arg     | Lys Ser Gly Trp     | Ser         |     |     |     |
|                 | 885                 |                     | 890         |     | 893 |     |

<210> 3166  
 <211> 1353  
 <212> PRT  
 <213> Homo sapiens

<400> 3166  
 Phe Pro Gly Pro Thr Ile Ser Ser Asn Ser Gln Leu Tyr Arg Ala Ser  
 1 5 10 15  
 Ala Leu Phe Glu Thr Ile Arg His Glu Ala Gln Leu Ser Thr Asp Tyr  
 20 25 30  
 Lys Leu Ser Leu Phe Asp Leu Gln Thr Ser Ser Tyr Gln Ala Leu Gln  
 35 40 45  
 Arg Val Leu Val Ser Leu Gly His His Asp Glu Ala Leu Ala Val Ala  
 50 55 60  
 Glu Arg Gly Arg Thr Arg Ala Phe Ala Asp Leu Leu Val Glu Arg Gln  
 65 70 75 80  
 Thr Gly Gln Gln Asp Ser Asp Pro Tyr Ser Pro Val Thr Ile Asp Gln

|     |     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |  | 95  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|
| Ile | Leu | Glu | Met | Val | Asn | Gly | Gln | Arg | Gly | Leu | Val | Leu | Tyr | Tyr | Ser |  |     |
|     |     |     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     |  | 110 |
| Leu | Ala | Ala | Gly | Tyr | Leu | Tyr | Ser | Trp | Leu | Leu | Ala | Pro | Gly | Ala | Gly |  |     |
|     |     |     |     |     | 115 |     |     |     |     |     | 120 |     |     |     |     |  | 125 |
| Ile | Val | Lys | Phe | His | Glu | His | Tyr | Leu | Gly | Glu | Asn | Thr | Val | Glu | Asn |  |     |
|     |     |     |     |     | 130 |     |     |     |     |     | 135 |     |     |     |     |  | 140 |
| Ser | Ser | Asp | Phe | Gln | Ala | Ser | Ser | Ser | Val | Thr | Leu | Pro | Thr | Ala | Thr |  |     |
|     |     |     |     |     | 145 |     |     |     |     |     | 150 |     |     |     |     |  | 155 |
| Gly | Ser | Ala | Leu | Glu | Gln | His | Ile | Ala | Ser | Val | Arg | Glu | Ala | Leu | Gly |  |     |
|     |     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |  | 175 |
| Val | Glu | Ser | His | Tyr | Ser | Arg | Ala | Cys | Ala | Ser | Ser | Glu | Thr | Glu | Ser |  |     |
|     |     |     |     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |  | 190 |
| Glu | Ala | Gly | Asp | Ile | Met | Asp | Gln | Gln | Phe | Glu | Glu | Met | Asn | Asn | Lys |  |     |
|     |     |     |     |     | 195 |     |     |     |     |     | 200 |     |     |     |     |  | 205 |
| Leu | Asn | Ser | Val | Thr | Asp | Pro | Thr | Gly | Phe | Leu | Arg | Met | Val | Arg | Arg |  |     |
|     |     |     |     |     | 210 |     |     |     |     |     | 215 |     |     |     |     |  | 220 |
| Asn | Asn | Leu | Phe | Asn | Arg | Ser | Cys | Gln | Ser | Met | Thr | Ser | Leu | Phe | Ser |  |     |
|     |     |     |     |     | 225 |     |     |     |     |     | 230 |     |     |     |     |  | 235 |
| Asn | Thr | Val | Ser | Pro | Thr | Gln | Asp | Gly | Thr | Ser | Ser | Leu | Pro | Arg | Arg |  |     |
|     |     |     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     |  | 255 |
| Gln | Ser | Ser | Phe | Ala | Lys | Pro | Pro | Leu | Arg | Ala | Leu | Tyr | Asp | Leu | Leu |  |     |
|     |     |     |     |     | 260 |     |     |     |     |     | 265 |     |     |     |     |  | 270 |
| Ile | Ala | Pro | Met | Glu | Gly | Gly | Leu | Met | His | Ser | Ser | Gly | Pro | Val | Gly |  |     |
|     |     |     |     |     | 275 |     |     |     |     |     | 280 |     |     |     |     |  | 285 |
| Arg | His | Arg | Gln | Leu | Ile | Leu | Val | Leu | Glu | Gly | Glu | Leu | Tyr | Leu | Ile |  |     |
|     |     |     |     |     | 290 |     |     |     |     |     | 295 |     |     |     |     |  | 300 |
| Pro | Phe | Ala | Leu | Leu | Lys | Gly | Ser | Ser | Ser | Asn | Glu | Tyr | Leu | Tyr | Glu |  |     |
|     |     |     |     |     | 305 |     |     |     |     |     | 310 |     |     |     |     |  | 315 |
| Arg | Phe | Gly | Leu | Leu | Ala | Val | Pro | Ser | Ile | Arg | Ser | Leu | Ser | Val | Gln |  |     |
|     |     |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     |  | 335 |
| Ser | Lys | Ser | His | Leu | Arg | Lys | Asn | Pro | Pro | Thr | Tyr | Ser | Ser | Ser | Thr |  |     |
|     |     |     |     |     | 340 |     |     |     |     |     | 345 |     |     |     |     |  | 350 |
| Ser | Met | Ala | Ala | Val | Ile | Gly | Asn | Pro | Lys | Leu | Pro | Ser | Ala | Val | Met |  |     |
|     |     |     |     |     | 355 |     |     |     |     |     | 360 |     |     |     |     |  | 365 |
| Asp | Arg | Trp | Leu | Trp | Gly | Pro | Met | Pro | Ser | Ala | Glu | Glu | Glu | Ala | Tyr |  |     |
|     |     |     |     |     | 370 |     |     |     |     |     | 375 |     |     |     |     |  | 380 |
| Met | Val | Ser | Glu | Leu | Leu | Gly | Cys | Gln | Pro | Leu | Val | Gly | Ser | Val | Ala |  |     |
|     |     |     |     |     | 385 |     |     |     |     |     | 390 |     |     |     |     |  | 395 |
| Thr | Lys | Glu | Arg | Val | Met | Ser | Ala | Leu | Thr | Gln | Ala | Glu | Cys | Val | His |  |     |
|     |     |     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     |  | 415 |
| Phe | Ala | Thr | His | Ile | Ser | Trp | Lys | Leu | Ser | Ala | Leu | Val | Leu | Thr | Pro |  |     |
|     |     |     |     |     | 420 |     |     |     |     |     | 425 |     |     |     |     |  | 430 |
| Ser | Met | Asp | Gly | Asn | Pro | Ala | Ser | Ser | Lys | Ser | Ser | Phe | Gly | His | Pro |  |     |
|     |     |     |     |     | 435 |     |     |     |     |     | 440 |     |     |     |     |  | 445 |
| Tyr | Thr | Ile | Pro | Glu | Ser | Leu | Arg | Val | Gln | Asp | Asp | Ala | Ser | Asp | Gly |  |     |
|     |     |     |     |     | 450 |     |     |     |     |     | 455 |     |     |     |     |  | 460 |
| Glu | Ser | Ile | Ser | Asp | Cys | Pro | Pro | Leu | Gln | Glu | Leu | Leu | Leu | Thr | Ala |  |     |
|     |     |     |     |     | 465 |     |     |     |     |     | 470 |     |     |     |     |  | 475 |
| Ala | Asp | Val | Leu | Asp | Leu | Gln | Leu | Pro | Val | Lys | Leu | Val | Val | Leu | Gly |  |     |
|     |     |     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     |  | 495 |
| Ser | Ser | Gln | Glu | Ser | Asn | Ser | Lys | Val | Ala | Ala | Asp | Gly | Val | Ile | Ala |  |     |
|     |     |     |     |     | 500 |     |     |     |     |     | 505 |     |     |     |     |  | 510 |
| Leu | Thr | Arg | Ala | Phe | Leu | Ala | Ala | Gly | Ala | Gln | Cys | Val | Leu | Val | Ser |  |     |
|     |     |     |     |     | 515 |     |     |     |     |     | 520 |     |     |     |     |  | 525 |
| Leu | Trp | Pro | Val | Pro | Val | Ala | Ala | Phe | Lys | Met | Phe | Ile | His | Ala | Phe |  |     |
|     |     |     |     |     | 530 |     |     |     |     |     | 535 |     |     |     |     |  | 540 |
| Tyr | Ser | Ser | Leu | Leu | Asn | Gly | Leu | Lys | Ala | Ser | Ala | Ala | Leu | Gly | Glu |  |     |
|     |     |     |     |     | 545 |     |     |     |     |     | 550 |     |     |     |     |  | 555 |
| Ala | Met | Lys | Val | Val | Gln | Ser | Ser | Lys | Ala | Phe | Ser | His | Pro | Ser | Asn |  |     |
|     |     |     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     |  | 575 |
| Trp | Ala | Gly | Phe | Met | Leu | Ile | Gly | Ser | Asp | Val | Lys | Leu | Asn | Ser | Pro |  |     |
|     |     |     |     |     | 580 |     |     |     |     |     | 585 |     |     |     |     |  | 590 |
| Ser | Ser | Leu | Ile | Gly | Gln | Ala | Leu | Thr | Glu | Ile | Leu | Gln | His | Pro | Glu |  |     |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 595                     | 600                 | 605                 |
| Arg Ala Arg Asp Ala Leu | Arg Val Leu Leu His | Leu Val Glu Lys Ser |
| 610                     | 615                 | 620                 |
| Leu Gln Arg Ile Gln Asn | Gly Gln Arg Asn Ala | Met Tyr Thr Ser Gln |
| 625                     | 630                 | 635                 |
| Gln Ser Val Glu Asn Lys | Val Gly Gly Ile Pro | Gly Trp Gln Ala Leu |
| 645                     | 650                 | 655                 |
| Leu Thr Ala Val Gly Phe | Arg Leu Asp Pro Pro | Thr Ser Gly Leu Pro |
| 660                     | 665                 | 670                 |
| Ala Ala Val Phe Phe Pro | Thr Ser Asp Pro Gly | Asp Arg Leu Gln Gln |
| 675                     | 680                 | 685                 |
| Cys Ser Ser Thr Leu Gln | Ser Leu Leu Gly Leu | Pro Asn Pro Ala Leu |
| 690                     | 695                 | 700                 |
| Gln Ala Leu Cys Lys Leu | Ile Thr Ala Ser Glu | Thr Gly Glu Gln Leu |
| 705                     | 710                 | 715                 |
| Ile Ser Arg Ala Val Lys | Asn Met Val Gly Met | Leu His Gln Val Leu |
| 725                     | 730                 | 735                 |
| Val Gln Leu Gln Ala Gly | Glu Lys Glu Gln Asp | Leu Ala Ser Ala Pro |
| 740                     | 745                 | 750                 |
| Ile Gln Val Ser Ile Ser | Val Gln Leu Trp Arg | Leu Pro Gly Cys His |
| 755                     | 760                 | 765                 |
| Glu Phe Leu Ala Ala Leu | Gly Phe Val Leu Cys | Glu Val Gly Gln Glu |
| 770                     | 775                 | 780                 |
| Glu Val Ile Leu Lys Thr | Gly Lys Gln Ala Asn | Arg Arg Thr Val His |
| 785                     | 790                 | 795                 |
| Phe Ala Leu Gln Ser Leu | Leu Ser Leu Phe Asp | Ser Thr Glu Leu Pro |
| 805                     | 810                 | 815                 |
| Lys Arg Leu Ser Leu Asp | Ser Ser Ser Ser Leu | Glu Ser Leu Ala Ser |
| 820                     | 825                 | 830                 |
| Ala Gln Ser Val Ser Asn | Ala Leu Pro Leu Gly | Tyr Gln Gln Pro Pro |
| 835                     | 840                 | 845                 |
| Phe Ser Pro Thr Gly Ala | Asp Ser Ile Ala Ser | Asp Ala Ile Ser Val |
| 850                     | 855                 | 860                 |
| Tyr Ser Leu Ser Ser Ile | Ala Ser Ser Met Ser | Phe Val Ser Lys Pro |
| 865                     | 870                 | 875                 |
| Glu Gly Gly Ser Glu Gly | Gly Gly Gly Pro Gly | Gly Arg Gln Asp His |
| 885                     | 890                 | 895                 |
| Arg Ser Lys Asn Ala Tyr | Leu Gln Arg Ser Thr | Leu Pro Arg Ser Gln |
| 900                     | 905                 | 910                 |
| Leu Pro Pro Gln Thr Arg | Pro Ala Gly Asn Lys | Asp Glu Glu Glu Tyr |
| 915                     | 920                 | 925                 |
| Glu Gly Phe Ser Ile Ile | Ser Asn Glu Pro Leu | Ala Thr Tyr Gln Glu |
| 930                     | 935                 | 940                 |
| Asn Arg Asn Thr Cys Phe | Ser Pro Asp His Lys | Gln Pro Gln Pro Gly |
| 945                     | 950                 | 955                 |
| Thr Ala Gly Gly Met Arg | Val Ser Val Ser Ser | Lys Gly Ser Ile Ser |
| 965                     | 970                 | 975                 |
| Thr Pro Asn Ser Pro Val | Lys Met Thr Leu Ile | Pro Ser Pro Asn Ser |
| 980                     | 985                 | 990                 |
| Pro Phe Gln Lys Val Gly | Lys Leu Ala Ser Ser | Asp Thr Gly Glu Ser |
| 995                     | 1000                | 1005                |
| Asp Gln Ser Ser Thr Glu | Thr Asp Ser Thr Val | Lys Ser Gln Glu Glu |
| 1010                    | 1015                | 1020                |
| Ser Asn Pro Lys Leu Asp | Pro Gln Glu Leu Ala | Gln Lys Ile Leu Glu |
| 1025                    | 1030                | 1035                |
| Glu Thr Gln Ser His Leu | Ile Ala Val Glu Arg | Leu Gln Arg Ser Gly |
| 1045                    | 1050                | 1055                |
| Gly Gln Val Ser Lys Ser | Asn Asn Pro Glu Asp | Gly Val Gln Ala Pro |
| 1060                    | 1065                | 1070                |
| Ser Ser Thr Ala Val Phe | Arg Ala Ser Glu Thr | Ser Ala Phe Ser Arg |
| 1075                    | 1080                | 1085                |
| Pro Val Leu Ser His Gln | Lys Ser Gln Pro Ser | Pro Val Thr Val Lys |
| 1090                    | 1095                | 1100                |
| Pro Lys Pro Pro Ala Arg | Ser Ser Ser Leu Pro | Lys Val Ser Ser Gly |

|   |      |      |      |
|---|------|------|------|
| 1105  | 1110 | 1115 | 1120 |
| Tyr Ser Ser Pro Thr Thr Ser Glu Met Ser Ile Lys Asp Ser Pro Ser |      |      |      |
|   | 1125 | 1130 | 1135 |
| Gln His Ser Gly Arg Pro Ser Pro Gly Cys Asp Ser Gln Thr Ser Gln |      |      |      |
|   | 1140 | 1145 | 1150 |
| Leu Asp Gln Pro Leu Phe Lys Leu Lys Tyr Pro Ser Ser Pro Tyr Ser |      |      |      |
|   | 1155 | 1160 | 1165 |
| Ala His Ile Ser Lys Ser Pro Arg Asn Met Ser Pro Ser Ser Gly His |      |      |      |
|   | 1170 | 1175 | 1180 |
| Gln Ser Pro Ala Gly Ser Ala Pro Ser Pro Ala Leu Ser Tyr Ser Ser |      |      |      |
| 1185  | 1190 | 1195 | 1200 |
| Ala Gly Ser Ala Arg Ser Ser Pro Ala Asp Ala Pro Asp Ile Asp Lys |      |      |      |
|   | 1205 | 1210 | 1215 |
| Leu Lys Met Ala Ala Ile Asp Glu Lys Val Gln Ala Val His Asn Leu |      |      |      |
|   | 1220 | 1225 | 1230 |
| Lys Met Phe Trp Gln Ser Thr Pro Gln His Ser Thr Gly Pro Met Lys |      |      |      |
|   | 1235 | 1240 | 1245 |
| Ile Phe Arg Gly Ala Pro Gly Thr Met Thr Ser Lys Arg Asp Val Leu |      |      |      |
|   | 1250 | 1255 | 1260 |
| Ser Leu Leu Asn Leu Ser Pro Arg Pro Asn Lys Lys Glu Glu Gly Val |      |      |      |
| 1265  | 1270 | 1275 | 1280 |
| Asp Lys Leu Glu Leu Lys Glu Leu Ser Leu Gln Gln His Asp Gly Ala |      |      |      |
|   | 1285 | 1290 | 1295 |
| Pro Pro Lys Ala Pro Pro Asn Gly His Trp Arg Thr Glu Thr Thr Ser |      |      |      |
|   | 1300 | 1305 | 1310 |
| Leu Gly Ser Leu Pro Leu Pro Ala Gly Pro Pro Ala Thr Ala Pro Ala |      |      |      |
|   | 1315 | 1320 | 1325 |
| Arg Pro Leu Arg Leu Pro Ser Gly Asn Gly Tyr Lys Phe Leu Ser Pro |      |      |      |
|   | 1330 | 1335 | 1340 |
| Gly Arg Phe Phe Pro Ser Ser Lys Cys                             |      |      |      |
| 1345  | 1350 | 1353 |      |

<210> 3167  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 3167  
 Ala Ala Arg Arg Arg Gln Lys Gly Lys Glu Glu Asn Met Met Met Asp  
 1 5 10 15  
 Leu Phe Glu Thr Gly Ser Tyr Phe Phe Tyr Leu Asp Gly Glu Asn Val  
 20 25 30  
 Thr Leu Gln Pro Leu Glu Val Ala Glu Gly Ser Pro Leu Tyr Pro Gly  
 35 40 45  
 Ser Asp Gly Thr Leu Ser Pro Cys Gln Asp Gln Met Pro Pro Glu Ala  
 50 55 60  
 Gly Ser Asp Ser Ser Gly Glu Glu His Val Leu Ala Pro Pro Gly Leu  
 65 70 75 80  
 Gln Pro Pro His Cys Pro Gly Gln Cys Leu Ile Trp Ala Cys Lys Thr  
 85 90 95  
 Cys Lys Arg Lys Ser Ala Pro Thr Asp Arg Arg Lys Ala Ala Thr Leu  
 100 105 110  
 Arg Glu Arg Arg Arg Leu Lys Lys Ile Asn Glu Ala Phe Glu Ala Leu  
 115 120 125  
 Lys Arg Arg Thr Val Ala Asn Pro Asn Gln Arg Leu Pro Lys Val Glu  
 130 135 140  
 Ile Leu Arg Ser Ala Ile Ser Tyr Ile Glu Arg Leu Gln Asp Leu Leu  
 145 150 155 160  
 His Arg Leu Asp Gln Gln Glu Lys Met Gln Glu Leu Gly Val Asp Pro  
 165 170 175  
 Phe Ser Tyr Arg Pro Lys Gln Glu Asn Leu Glu Gly Ala Asp Phe Leu



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Arg | Thr | Cys | Ser | Ser | Gln | Trp | Pro | Ser | Val | Ser | Asp | His | Ser | Arg | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Val | Ile | Thr | Ala | Lys | Glu | Gly | Gly | Ala | Ser | Ile | Asp | Ser | Ser | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ser | Ser | Leu | Arg | Cys | Leu | Ser | Ser | Ile | Val | Asp | Ser | Ile | Ser | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Glu | Arg | Lys | Leu | Pro | Cys | Val | Glu | Glu | Val | Val | Glu | Lys |     |     |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     | 254 |     |     |

<210> 3168  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<400> 3168

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ser | Arg | Arg | Val | Thr | Met | Lys | Phe | Asn | Pro | Phe | Val | Thr | Ser | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ser | Lys | Asn | Arg | Lys | Arg | His | Phe | Asn | Ala | Pro | Ser | His | Val | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Lys | Ile | Met | Ser | Ser | Pro | Leu | Ser | Lys | Glu | Leu | Arg | Gln | Lys | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Val | Arg | Ser | Met | Pro | Ile | Arg | Lys | Asp | Asp | Glu | Val | Gln | Val | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Gly | His | Tyr | Lys | Gly | Gln | Gln | Ile | Gly | Lys | Val | Val | Gln | Val | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Lys | Lys | Tyr | Val | Ile | Tyr | Ile | Glu | Arg | Val | Gln | Arg | Glu | Lys | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asn | Gly | Thr | Thr | Val | His | Val | Gly | Ile | His | Pro | Ser | Lys | Val | Val | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Arg | Leu | Lys | Leu | Asp | Lys | Asp | Arg | Lys | Lys | Ile | Leu | Glu | Arg | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Lys | Ser | Arg | Gln | Val | Gly | Lys | Glu | Lys | Gly | Lys | Tyr | Lys | Glu | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Leu | Ile | Glu | Lys | Met | Gln | Glu |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 | 151 |     |     |     |     |     |     |     |     |     |

<210> 3169  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 3169

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Gly | Gly | Ala | Ile | Ser | Leu | Ser | Val | Glu | Ala | Lys | Ala | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Leu | Leu | Val | Lys | Gly | Lys | Gln | Ala | Arg | Met | Asp | Ile | Tyr | Asp | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Thr | Leu | Gly | Val | Val | Val | Phe | Gly | Gly | Phe | Met | Val | Val | Ser | Ala |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Gly | Ile | Phe | Leu | Val | Ser | Thr | Phe | Ser | Met | Lys | Glu | Thr | Ser | Tyr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Glu | Ala | Leu | Ala | Asn | Gln | Arg | Lys | Glu | Met | Ala | Lys | Thr | His | His |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Lys | Val | Glu | Lys | Lys | Lys | Lys | Glu | Lys | Thr | Val | Glu | Lys | Lys | Gly |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Thr | Lys | Lys | Lys | Glu | Glu | Lys | Pro | Asn | Gly | Lys | Ile | Pro | Asp | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Pro | Ala | Pro | Asn | Val | Thr | Val | Leu | Leu | Arg | Glu | Pro | Val | Arg | Ala |

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| 115                     | 120                     | 125                 |
| Pro Ala Val Ala Val Ala | Pro Thr Pro Val Gln     | Pro Pro Ile Ile Val |
| 130                     | 135                     | 140                 |
| Ala Pro Val Ala Thr Val | Pro Ala Met Pro Gln Glu | Lys Leu Ala Ser     |
| 145                     | 150                     | 155                 |
| Ser Pro Lys Asp Lys Lys | Lys Lys Glu Lys Lys     | Val Ala Lys Val Glu |
| 165                     | 170                     | 175                 |
| Pro Ala Val Ser Ser Val | Val Asn Ser Ile Gln     | Val Leu Thr Ser Lys |
| 180                     | 185                     | 190                 |
| Ala Ala Ile Leu Glu Thr | Ala Pro Lys Glu Gly     | Arg Asn Thr Asp Val |
| 195                     | 200                     | 205                 |
| Ala Gln Ser Pro Glu Ala | Pro Lys Gln Glu Ala     | Pro Ala Lys Lys Lys |
| 210                     | 215                     | 220                 |
| Ser Gly Ser Lys Lys Lys | Gly Pro Pro Asp Ala     | Asp Gly Pro Leu Tyr |
| 225                     | 230                     | 235                 |
| Leu Pro Tyr Lys Thr Leu | Val Ser Thr Val Gly     | Ser Met Val Phe Asn |
| 245                     | 250                     | 255                 |
| Glu Gly Glu Ala Gln Arg | Leu Ile Glu Ile Leu     | Ser Glu Lys Ala Gly |
| 260                     | 265                     | 270                 |
| Ile Ile Gln Asp Thr Trp | His Lys Ala Thr Gln     | Lys Gly Asp Pro Val |
| 275                     | 280                     | 285                 |
| Ala Ile Leu Lys Arg Gln | Leu Glu Glu Lys Glu     | Lys Leu Leu Ala Thr |
| 290                     | 295                     | 300                 |
| Glu Gln Glu Asp Ala Ala | Val Ala Lys Ser Lys     | Leu Arg Glu Leu Asn |
| 305                     | 310                     | 315                 |
| Lys Glu Met Ala Ala Glu | Lys Ala Lys Ala Ala     | Gly Glu Ala Lys     |
| 325                     | 330                     | 335                 |
| Val Lys Lys Gln Leu Val | Ala Arg Glu Gln Glu     | Ile Thr Ala Val Gln |
| 340                     | 345                     | 350                 |
| Ala Arg Met Gln Ala Ser | Tyr Arg Glu His Val     | Lys Glu Val Gln Gln |
| 355                     | 360                     | 365                 |
| Leu Gln Gly Lys Ile Arg | Thr Leu Gln Glu Gln     | Leu Glu Asn Gly Pro |
| 370                     | 375                     | 380                 |
| Asn Thr Gln Leu Ala Arg | Leu Gln Gln Glu Asn     | Ser Ile Leu Arg Asp |
| 385                     | 390                     | 395                 |
| Ala Leu Asn Gln Ala Thr | Ser Gln Val Glu Ser     | Lys Gln Asn Ala Glu |
| 405                     | 410                     | 415                 |
| Leu Ala Lys Leu Arg Gln | Glu Leu Ser Lys Val     | Ser Lys Glu Leu Val |
| 420                     | 425                     | 430                 |
| Glu Lys Ser Glu Ala Val | Arg Gln Asp Glu Gln     | Gln Arg Lys Ala Leu |
| 435                     | 440                     | 445                 |
| Glu Ala Lys Ala Ala Ala | Phe Glu Lys Gln Val     | Leu Gln Leu Gln Ala |
| 450                     | 455                     | 460                 |
| Ser His Arg Glu Ser Glu | Glu Ala Leu Gln Lys     | Arg Leu Asp Glu Val |
| 465                     | 470                     | 475                 |
| Ser Arg Glu Leu Cys His | Thr Gln Ser Ser His     | Ala Ser Leu Arg Ala |
| 485                     | 490                     | 495                 |
| Asp Ala Glu Lys Ala Gln | Glu Gln Gln Gln Met     | Ala Glu Leu His     |
| 500                     | 505                     | 510                 |
| Ser Lys Leu Gln Ser Ser | Glu Ala Glu Val Arg     | Ser Lys Cys Glu Glu |
| 515                     | 520                     | 525                 |
| Leu Ser Gly Leu His Gly | Gln Leu Gln Glu Ala     | Arg Ala Glu Asn Ser |
| 530                     | 535                     | 540                 |
| Gln Leu Thr Glu Arg Ile | Arg Ser Ile Glu Ala     | Leu Leu Glu Ala Gly |
| 545                     | 550                     | 555                 |
| Gln Ala Arg Asp Ala Gln | Asp Val Gln Ala Ser     | Gln Ala Glu Ala Asp |
| 565                     | 570                     | 575                 |
| Gln Gln Gln Thr Arg Leu | Lys Glu Leu Glu Ser     | Gln Val Ser Gly Leu |
| 580                     | 585                     | 590                 |
| Glu Lys Glu Ala Ile Glu | Leu Arg Glu Ala Val     | Glu Gln Gln Lys Val |
| 595                     | 600                     | 605                 |
| Lys Asn Asn Asp Leu Arg | Glu Lys Asn Trp Lys     | Ala Met Glu Ala Leu |
| 610                     | 615                     | 620                 |
| Ala Thr Ala Glu Gln Ala | Cys Lys Glu Lys Leu     | His Ser Leu Thr Gln |

|                     |                     |                     |             |     |      |     |
|---------------------|---------------------|---------------------|-------------|-----|------|-----|
| 625                 |                     | 630                 |             | 635 |      | 640 |
| Ala Lys Glu Glu Ser | Glu Lys Gln Leu Cys | Leu Ile Glu Ala Gln | Thr         |     |      |     |
|                     | 645                 |                     | 650         |     | 655  |     |
| Met Glu Ala Leu Leu | Ala Leu Leu Pro     | Glu Leu Ser Val     | Leu Ala Gln |     |      |     |
|                     | 660                 |                     | 665         |     | 670  |     |
| Gln Asn Tyr Thr Glu | Trp Leu Gln Asp     | Leu Lys Glu Lys     | Gly Pro Thr |     |      |     |
|                     | 675                 |                     | 680         |     | 685  |     |
| Leu Leu Lys His Pro | Pro Ala Pro Ala     | Glu Pro Ser Ser     | Asp Leu Ala |     |      |     |
|                     | 690                 |                     | 695         |     | 700  |     |
| Ser Lys Leu Arg Glu | Ala Glu Glu Thr     | Gln Ser Thr Leu     | Gln Ala Glu |     |      |     |
| 705                 | 710                 |                     | 715         |     | 720  |     |
| Cys Asp Gln Tyr Arg | Ser Ile Leu Ala     | Glu Thr Glu Gly     | Met Leu Arg |     |      |     |
|                     | 725                 |                     | 730         |     | 735  |     |
| Asp Leu Gln Lys Ser | Val Glu Glu Glu     | Gln Val Trp Arg     | Ala Lys     |     |      |     |
|                     | 740                 |                     | 745         |     | 750  |     |
| Val Gly Ala Ala Glu | Glu Glu Glu Leu     | Gln Lys Ser Arg     | Val Thr Val | Lys |      |     |
|                     | 755                 |                     | 760         |     | 765  |     |
| His Leu Glu Glu Ile | Val Glu Lys Leu     | Lys Gly Glu Leu     | Glu Ser Ser |     |      |     |
|                     | 770                 |                     | 775         |     | 780  |     |
| Asp Gln Val Arg Glu | His Thr Ser His     | Leu Glu Ala Glu     | Leu Glu Lys |     |      |     |
| 785                 | 790                 |                     | 795         |     | 800  |     |
| His Met Ala Ala Ala | Ser Ala Glu Cys     | Gln Asn Tyr Ala     | Lys Glu Val |     |      |     |
|                     | 805                 |                     | 810         |     | 815  |     |
| Ala Gly Leu Arg Gln | Leu Leu Leu Glu     | Ser Gln Ser Gln     | Leu Asp Ala |     |      |     |
|                     | 820                 |                     | 825         |     | 830  |     |
| Ala Lys Ser Glu Ala | Gln Lys Gln Ser     | Asp Glu Leu Ala     | Leu Val Arg |     |      |     |
|                     | 835                 |                     | 840         |     | 845  |     |
| Gln Gln Leu Ser Glu | Met Lys Ser His     | Val Glu Asp Gly     | Asp Ile Ala |     |      |     |
|                     | 850                 |                     | 855         |     | 860  |     |
| Gly Ala Pro Ala Ser | Ser Pro Glu Ala     | Pro Pro Ala Glu     | Gln Asp Pro |     |      |     |
| 865                 | 870                 |                     | 875         |     | 880  |     |
| Val Gln Leu Lys Thr | Gln Leu Glu Trp     | Thr Glu Ala Ile     | Leu Glu Asp |     |      |     |
|                     | 885                 |                     | 890         |     | 895  |     |
| Glu Gln Thr Gln Arg | Gln Lys Leu Thr     | Ala Glu Phe Glu     | Glu Ala Gln |     |      |     |
|                     | 900                 |                     | 905         |     | 910  |     |
| Thr Ser Ala Cys Arg | Leu Gln Glu Glu     | Leu Glu Lys Leu     | Arg Thr Ala |     |      |     |
|                     | 915                 |                     | 920         |     | 925  |     |
| Gly Pro Leu Glu Ser | Ser Glu Thr Glu     | Glu Ala Ser Gln     | Leu Lys Glu |     |      |     |
|                     | 930                 |                     | 935         |     | 940  |     |
| Arg Leu Glu Lys Glu | Lys Lys Leu Thr     | Ser Asp Leu Gly     | Arg Ala Ala |     |      |     |
| 945                 | 950                 |                     | 955         |     | 960  |     |
| Thr Arg Leu Gln Glu | Leu Leu Lys Thr     | Thr Gln Glu Gln     | Leu Ala Arg |     |      |     |
|                     | 965                 |                     | 970         |     | 975  |     |
| Glu Lys Asp Thr Val | Lys Lys Leu Gln     | Glu Gln Leu Glu     | Lys Ala Glu |     |      |     |
|                     | 980                 |                     | 985         |     | 990  |     |
| Asp Gly Ser Ser Ser | Lys Glu Gly Thr     | Ser Val             |             |     |      |     |
|                     | 995                 |                     | 1000        |     | 1003 |     |

<210> 3170  
 <211> 901  
 <212> PRT  
 <213> Homo sapiens

<400> 3170  
 Thr His Ala Ser Glu Lys Tyr Ser Tyr Gly His Leu Pro Thr His Ser  
 1 5 10 15  
 Ile Thr Ala His Pro Met Val Thr Ile Arg Ile Ser Asp Arg Gln Arg  
 20 25 30  
 Leu Ile Gln Pro Tyr Ile His Asn Tyr Ser Trp Leu Leu Phe Ala Ala  
 35 40 45  
 Leu Ala Leu Tyr Ser Ala His Leu Ala Ser Ala Glu Asp Val Asp Gly

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Glu Lys Leu Asp Pro Gln Thr Arg Ser Ser Ala Thr Thr Leu Arg Ser |     |     |
| 65  | 70  | 75  |
| Gln Cys Met Gln Leu Val Gly Asp Cys Leu Met Lys Ala His Gln Gly |     | 80  |
| 85  | 90  | 95  |
| Lys Gly Leu Lys Ala Leu Ala Leu Leu Gly Val Leu Pro Asp Gly Asp |     |     |
| 100   | 105 | 110 |
| Ser Ser Leu Glu Asp His Ala Leu Pro Val Thr Val Pro Thr Gly Ala |     |     |
| 115   | 120 | 125 |
| Ser Glu Glu Gln Leu Glu Lys Lys Ala Val Gln Gly Ala Glu Leu Ser |     |     |
| 130   | 135 | 140 |
| Glu Ala Gly Asn Gly Lys Arg Ala Val His Glu Glu Ile Arg Pro Val |     |     |
| 145   | 150 | 155 |
| Asp Phe Lys Gln Arg Asn Lys Ala Asp Lys Gly Val Ser Leu Ser Lys |     | 160 |
| 165   | 170 | 175 |
| Asp Pro Ser Cys Gln Thr Gln Ile Ser Asp Ser Pro Ala Asp Ala Ser |     |     |
| 180   | 185 | 190 |
| Pro Pro Thr Gly Leu Pro Asp Ala Glu Asp Ser Glu Val Ser Ser Gln |     |     |
| 195   | 200 | 205 |
| Lys Pro Ile Glu Glu Lys Ala Val Thr Pro Ser Pro Glu Gln Val Phe |     |     |
| 210   | 215 | 220 |
| Ala Glu Cys Ser Gln Lys Arg Ile Leu Gly Leu Leu Ala Ala Met Leu |     |     |
| 225   | 230 | 235 |
| Pro Pro Leu Lys Ser Gly Pro Thr Val Pro Leu Ile Asp Leu Glu His |     | 240 |
| 245   | 250 | 255 |
| Val Leu Pro Leu Met Phe Gln Val Val Ile Ser Asn Ala Gly His Leu |     |     |
| 260   | 265 | 270 |
| Asn Glu Thr Tyr His Leu Thr Leu Gly Leu Leu Gly Gln Leu Ile Ile |     |     |
| 275   | 280 | 285 |
| Arg Leu Leu Pro Ala Glu Val Asp Ala Ala Val Ile Lys Val Leu Ser |     |     |
| 290   | 295 | 300 |
| Ala Lys His Asn Leu Phe Ala Ala Gly Asp Ser Ser Ile Val Pro Asp |     |     |
| 305   | 310 | 315 |
| Gly Trp Lys Thr Thr His Leu Leu Phe Ser Leu Gly Ala Val Cys Leu |     | 320 |
| 325   | 330 | 335 |
| Asp Ser Arg Val Gly Leu Asp Trp Ala Cys Ser Met Ala Glu Ile Leu |     |     |
| 340   | 345 | 350 |
| Arg Ser Leu Asn Ser Ala Pro Leu Trp Arg Asp Val Ile Ala Thr Phe |     |     |
| 355   | 360 | 365 |
| Thr Asp His Cys Ile Lys Gln Leu Pro Phe Gln Leu Lys His Thr Asn |     |     |
| 370   | 375 | 380 |
| Ile Phe Thr Leu Leu Val Leu Val Gly Phe Pro Gln Val Leu Cys Val |     |     |
| 385   | 390 | 395 |
| Gly Thr Arg Cys Val Tyr Met Asp Asn Ala Asn Glu Pro His Asn Val |     | 400 |
| 405   | 410 | 415 |
| Ile Ile Leu Lys His Phe Thr Glu Lys Asn Arg Ala Val Ile Val Asp |     |     |
| 420   | 425 | 430 |
| Val Lys Thr Arg Lys Arg Lys Thr Val Lys Asp Tyr Gln Leu Val Gln |     |     |
| 435   | 440 | 445 |
| Lys Gly Gly Gly Gln Glu Cys Gly Asp Ser Arg Ala Gln Leu Ser Gln |     |     |
| 450   | 455 | 460 |
| Tyr Ser Gln His Phe Ala Phe Ile Ala Ser His Leu Leu Gln Ser Ser |     |     |
| 465   | 470 | 475 |
| Met Asp Ser His Cys Pro Glu Ala Val Glu Ala Thr Trp Val Leu Ser |     | 480 |
| 485   | 490 | 495 |
| Leu Ala Leu Lys Gly Leu Tyr Lys Thr Leu Lys Ala His Gly Phe Glu |     |     |
| 500   | 505 | 510 |
| Glu Ile Arg Ala Thr Phe Leu Gln Thr Asp Leu Leu Lys Leu Leu Val |     |     |
| 515   | 520 | 525 |
| Lys Lys Cys Ser Lys Gly Thr Gly Phe Ser Lys Thr Trp Leu Leu Arg |     |     |
| 530   | 535 | 540 |
| Asp Leu Glu Ile Leu Ser Ile Met Leu Tyr Ser Ser Lys Lys Glu Ile |     |     |
| 545   | 550 | 555 |
| Asn Ala Leu Ala Glu His Gly Asp Leu Glu Leu Asp Glu Arg Gly Asp |     | 560 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |  |  |
| Arg | Glu | Glu | Glu | Val | Glu | Arg | Pro | Val | Ser | Ser | Pro | Gly | Asp | Pro | Glu |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Gln | Lys | Lys | Leu | Asp | Pro | Leu | Glu | Gly | Leu | Asp | Glu | Pro | Thr | Arg | Ile |  |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Cys | Phe | Leu | Met | Ala | His | Asp | Ala | Leu | Asn | Ala | Pro | Leu | His | Ile | Leu |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Arg | Ala | Ile | Tyr | Glu | Leu | Gln | Met | Lys | Lys | Thr | Asp | Tyr | Phe | Phe | Leu |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Glu | Val | Gln | Lys | Arg | Phe | Asp | Gly | Asp | Glu | Leu | Thr | Thr | Asp | Glu | Arg |  |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Ile | Arg | Ser | Leu | Ala | Gln | Arg | Trp | Gln | Pro | Ser | Lys | Ser | Leu | Arg | Leu |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     |     | 670 |     |  |  |
| Glu | Glu | Gln | Ser | Ala | Lys | Ala | Val | Asp | Thr | Asp | Met | Ile | Ile | Leu | Pro |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Cys | Leu | Ser | Arg | Pro | Ala | Arg | Cys | Asp | Gln | Ala | Thr | Ala | Glu | Ser | Asn |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Pro | Val | Thr | Gln | Lys | Leu | Ile | Ser | Ser | Thr | Glu | Ser | Glu | Leu | Gln | Gln |  |  |
| 705 |     |     |     | 710 |     |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Ser | Tyr | Ala | Lys | Gln | Arg | Arg | Ser | Lys | Ser | Ala | Ala | Leu | Leu | His | Lys |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Glu | Leu | Asn | Cys | Lys | Ser | Lys | Arg | Ala | Val | Arg | Asp | Tyr | Leu | Phe | Arg |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Val | Asn | Glu | Ala | Thr | Ala | Val | Leu | Tyr | Ala | Arg | His | Val | Leu | Ala | Ser |  |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |
| Leu | Leu | Ala | Glu | Trp | Pro | Ser | His | Val | Pro | Val | Ser | Glu | Asp | Ile | Leu |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Glu | Leu | Ser | Gly | Pro | Ala | His | Met | Thr | Tyr | Ile | Leu | Asp | Met | Phe | Met |  |  |
| 785 |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     |     | 800 |  |  |
| Gln | Leu | Glu | Glu | Lys | His | Glu | Trp | Glu | Lys | Val | Val | Met | Gln | Thr | Glu |  |  |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |
| Leu | Val | Leu | Thr | His | Gln | Val | Leu | Pro | Leu | Pro | His | Arg | Leu | Pro | Pro |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Val | Ser | Ala | Ser | Trp | Ser | Glu | Ala | Thr | Cys | Val | Ala | Val | Gln | Leu | Pro |  |  |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |
| Asp | Arg | Cys | Glu | Cys | Ser | Lys | Gly | Arg | Val | Thr | Val | Ser | Ser | Pro | Lys |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |  |
| Asp | Trp | Ala | Ser | Glu | Glu | Leu | Arg | Gly | Pro | Glu | Arg | Asp | Phe | Gln | Leu |  |  |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |  |  |
| Asn | Gln | Lys | Ala | Leu | Ser | Pro | Ser | Ser | Gln | Phe | Pro | Ser | Ala | Glu | Ile |  |  |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |  |  |
| Leu | Arg | His | Ile | Arg |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 900 | 901 |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3171

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3171

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Thr | Arg | Ala | Gly | Pro | Val | Lys | Asp | Arg | Glu | Ala | Phe | Gln | Arg | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Asn | Phe | Leu | Tyr | Gln | Ala | Ala | His | Cys | Val | Leu | Ala | Gln | Asp | Pro | Glu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Asn | Gln | Ala | Leu | Ala | Arg | Phe | Tyr | Cys | Tyr | Thr | Glu | Arg | Thr | Ile | Ala |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Lys | Arg | Leu | Val | Leu | Arg | Arg | Asp | Pro | Ser | Val | Lys | Arg | Thr | Leu | Cys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Arg | Gly | Cys | Ser | Ser | Leu | Leu | Val | Pro | Gly | Leu | Thr | Cys | Thr | Gln | Arg |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Gln | Arg | Arg | Cys | Arg | Gly | Gln | Arg | Trp | Thr | Val | Gln | Thr | Cys | Leu | Thr |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Cys | Gln | Arg | Ser | Gln | Arg | Phe | Leu | Asn | Asp | Pro | Gly | His | Leu | Leu | Trp |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Asp | Arg | Pro | Glu | Ala | Gln | Leu | Gly | Ser | Gln | Ala | Asp | Ser | Lys | Pro |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Leu | Gln | Pro | Leu | Pro | Asn | Thr | Ala | His | Ser | Ile | Ser | Asp | Arg | Leu | Pro |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Glu | Glu | Lys | Met | Gln | Thr | Gln | Gly | Ser | Ser | Asn | Gln |     |     |     |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 | 156 |     |     |     |     |  |  |

<210> 3172  
 <211> 164  
 <212> PRT  
 <213> Homo sapiens

<400> 3172

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Arg | Arg | Ala | Gly | Ala | Gly | Arg | Gly | Arg | Arg | Arg | Gly | Glu | Val | Thr |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Ser | Pro | Leu | Ser | Pro | Glu | Pro | Leu | Ala | Phe | Gln | Ser | Leu | Ala | Thr | Ser |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Arg | Arg | Pro | Glu | Pro | Gln | Thr | Thr | Gln | Thr | Val | Arg | Ser | Ser | Ala | Leu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Pro | Ala | Pro | Pro | Ala | Ser | Pro | Met | Ser | Gln | Tyr | Ala | Pro | Ser | Pro | Asp |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Phe | Lys | Arg | Ala | Leu | Asp | Ser | Ser | Pro | Glu | Ala | Asn | Thr | Glu | Asp | Asp |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |  |  |
| Lys | Thr | Glu | Glu | Asp | Val | Pro | Met | Pro | Lys | Asn | Tyr | Leu | Trp | Leu | Thr |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |  |  |
| Ile | Val | Ser | Cys | Phe | Cys | Pro | Ala | Tyr | Pro | Ile | Asn | Ile | Val | Ala | Leu |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Val | Phe | Ser | Ile | Met | Ser | Leu | Asn | Ser | Tyr | Asn | Asp | Gly | Asp | Tyr | Glu |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |
| Gly | Ala | Arg | Arg | Leu | Gly | Arg | Asn | Ala | Lys | Trp | Val | Ala | Ile | Ala | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ile | Ile | Ile | Gly | Leu | Leu | Ile | Ile | Gly | Ile | Ser | Cys | Ala | Val | His | Phe |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Thr | Arg | Asn | Ala |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 164 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3173  
 <211> 1348  
 <212> PRT  
 <213> Homo sapiens

<400> 3173

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Arg | Ser | Gly | Gly | Cys | Arg | Arg | Arg | Ala | Trp | Thr | Ser | Arg | Trp | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Gln | Arg | Arg | Arg | Ser | Pro | Glu | Ser | Cys | Glu | Ala | Pro | Leu | Ser | Ala | Pro |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Leu | Trp | Gly | Pro | Gln | Arg | Gly | Leu | Pro | Gly | Arg | Glu | Pro | Leu | Arg | Ser |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Arg | Ser | Ala | Ser | Ala | Ile | Ala | Leu | Arg | Thr | Ile | Gly | His | Ile | Leu | Ala |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Leu | Leu | Leu | Arg | Leu | Leu | His | Leu | Gly | Leu | Gly | Ser | Gly | Gly | Cys | Arg |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Glu | Asp | Val | Pro | Pro | Ser | Gly | Arg | Gly | Lys | Lys | Glu | Glu | Lys | Met | Lys |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |  |  |
| Lys | His | Arg | Arg | Ala | Leu | Ala | Leu | Val | Ser | Cys | Leu | Phe | Leu | Cys | Ser |  |  |



4867

|                     |                     |                             |
|---------------------|---------------------|-----------------------------|
| 610                 | 615                 | 620                         |
| Ala Thr Ala Thr Ala | Ala Pro Lys Met Pro | Glu Ser Thr Pro Val Ser     |
| 625                 | 630                 | 635                         |
| Thr Pro Val Pro Ser | Pro Glu Tyr Val Thr | Thr Glu Val His Thr His     |
| 645                 | 650                 | 655                         |
| Asp Met Glu Pro Ser | Thr Pro Asp Thr Pro | Lys Glu Ser Pro Ile Val     |
| 660                 | 665                 | 670                         |
| Gln Leu Val Gln Glu | Glu Glu Glu Glu Ala | Ser Pro Ser Thr Val Thr     |
| 675                 | 680                 | 685                         |
| Leu Leu Gly Ser Gly | Glu Gln Glu Asp Glu | Ser Ser Pro Trp Phe Glu     |
| 690                 | 695                 | 700                         |
| Ser Glu Thr Gln Ile | Phe Cys Ser Glu Leu | Thr Thr Ile Cys Cys Ile     |
| 705                 | 710                 | 715                         |
| Ser Ser Phe Ser Glu | Tyr Ile Tyr Lys Trp | Cys Ser Val Arg Val Ala     |
| 725                 | 730                 | 735                         |
| Leu Tyr Arg Gln Arg | Ser Arg Thr Ala Leu | Ser Lys Gly Lys Asp Tyr     |
| 740                 | 745                 | 750                         |
| Leu Val Leu Ala Gln | Pro Pro Leu Leu Leu | Pro Ala Glu Ser Val Asp     |
| 755                 | 760                 | 765                         |
| Val Ser Val Leu Gln | Pro Leu Ser Gly Glu | Leu Glu Asn Thr Asn Ile     |
| 770                 | 775                 | 780                         |
| Glu Arg Glu Ala Glu | Thr Val Val Leu Gly | Asp Leu Ser Ser Ser Met     |
| 785                 | 790                 | 795                         |
| His Gln Asp Asp Leu | Val Asn His Thr Val | Asp Ala Val Glu Leu Glu     |
| 805                 | 810                 | 815                         |
| Pro Ser His Ser Gln | Thr Leu Ser Gln Ser | Leu Leu Leu Asp Ile Thr     |
| 820                 | 825                 | 830                         |
| Pro Glu Ile Asn Pro | Leu Pro Lys Ile Glu | Val Ser Glu Ser Val Glu     |
| 835                 | 840                 | 845                         |
| Tyr Glu Ala Gly His | Ile Pro Ser Pro Val | Ile Pro Gln Glu Ser Ser     |
| 850                 | 855                 | 860                         |
| Val Glu Ile Asp Asn | Glu Thr Glu Gln Lys | Ser Glu Ser Phe Ser Ser     |
| 865                 | 870                 | 875                         |
| Ile Glu Lys Pro Ser | Ile Thr Tyr Glu Thr | Asn Lys Val Asn Glu Leu     |
| 885                 | 890                 | 895                         |
| Met Asp Asn Ile Ile | Lys Glu Asp Val Asn | Ser Met Gln Ile Phe Thr     |
| 900                 | 905                 | 910                         |
| Lys Leu Ser Glu Thr | Ile Val Pro Pro Ile | Asn Thr Ala Thr Val Pro     |
| 915                 | 920                 | 925                         |
| Asp Asn Glu Asp Gly | Glu Ala Lys Met Asn | Ile Ala Asp Thr Ala Lys     |
| 930                 | 935                 | 940                         |
| Gln Thr Leu Ile Ser | Val Val Asp Ser Ser | Ser Ser Leu Pro Glu Val Lys |
| 945                 | 950                 | 955                         |
| Glu Glu Glu Gln Ser | Pro Glu Asp Ala Leu | Leu Leu Arg Gly Leu Gln Arg |
| 965                 | 970                 | 975                         |
| Thr Ala Thr Asp Phe | Tyr Ala Glu Leu Gln | Asn Ser Thr Asp Leu Gly     |
| 980                 | 985                 | 990                         |
| Tyr Ala Asn Gly Asn | Leu Val His Gly Ser | Asn Gln Lys Glu Ser Val     |
| 995                 | 1000                | 1005                        |
| Phe Met Arg Leu Asn | Asn Arg Ile Lys Ala | Leu Glu Val Asn Met Ser     |
| 1010                | 1015                | 1020                        |
| Leu Ser Gly Arg Tyr | Leu Glu Glu Leu Ser | Gln Arg Tyr Arg Lys Gln     |
| 1025                | 1030                | 1035                        |
| Met Glu Glu Met Gln | Lys Ala Phe Asn Lys | Thr Ile Val Lys Leu Gln     |
| 1045                | 1050                | 1055                        |
| Asn Thr Ser Arg Ile | Ala Glu Glu Gln Asp | Gln Arg Gln Thr Glu Ala     |
| 1060                | 1065                | 1070                        |
| Ile Gln Leu Leu Gln | Ala Gln Leu Thr Asn | Met Thr Gln Leu Val Ser     |
| 1075                | 1080                | 1085                        |
| Asn Leu Ser Ala Thr | Val Ala Glu Leu Lys | Arg Glu Val Ser Asp Arg     |
| 1090                | 1095                | 1100                        |
| Gln Ser Tyr Leu Val | Ile Ser Leu Val Leu | Cys Val Val Leu Gly Leu     |
| 1105                | 1110                | 1115                        |
| Met Leu Cys Met Gln | Arg Cys Arg Asn Thr | Ser Gln Phe Asp Gly Asp     |

```

1125      1130      1135
Tyr Ile Ser Lys Leu Pro Lys Ser Asn Gln Tyr Pro Ser Pro Lys Arg
1140      1145      1150
Cys Phe Ser Ser Tyr Asp Asp Met Asn Leu Lys Arg Arg Thr Ser Phe
1155      1160      1165
Pro Leu Met Arg Ser Lys Ser Leu Gln Leu Thr Gly Lys Glu Val Asp
1170      1175      1180
Pro Asn Asp Leu Tyr Ile Val Glu Pro Leu Lys Phe Ser Pro Glu Lys
1185      1190      1195      1200
Lys Lys Lys Arg Cys Lys Tyr Lys Ile Glu Lys Ile Glu Thr Ile Lys
1205      1210      1215
Pro Glu Glu Pro Leu His Pro Ile Ala Asn Gly Asp Ile Lys Gly Arg
1220      1225      1230
Lys Pro Phe Thr Asn Gln Arg Asp Phe Ser Asn Met Gly Glu Val Tyr
1235      1240      1245
His Ser Ser Tyr Lys Gly Pro Pro Ser Glu Gly Ser Ser Glu Thr Ser
1250      1255      1260
Ser Gln Ser Glu Glu Ser Tyr Phe Cys Gly Ile Ser Ala Cys Thr Ser
1265      1270      1275      1280
Leu Cys Asn Gly Gln Ser Gln Lys Thr Lys Thr Glu Lys Arg Ala Leu
1285      1290      1295
Lys Arg Arg Arg Ser Lys Val Gln Asp Gln Gly Lys Leu Ile Lys Thr
1300      1305      1310
Leu Ile Gln Thr Lys Ser Gly Ser Leu Pro Ser Leu His Asp Ile Ile
1315      1320      1325
Lys Gly Asn Lys Glu Ile Thr Val Gly Thr Phe Gly Val Thr Ala Val
1330      1335      1340
Ser Gly His Ile
1345      1348

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<210> 3174
<211> 1394
<212> PRT
<213> Homo sapiens

```

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<400> 3174
Arg Lys Cys Ser Lys Glu Lys Ala Ser Lys Thr Pro Ser Gln Lys Ile
1      5      10      15
Pro Thr Thr Pro Cys Cys Val Leu Gln Ala Gly Pro Glu Pro Arg Ser
20      25      30
Leu Ala Glu Arg Met Gly Ala Asp Gly Glu Thr Val Val Leu Lys Asn
35      40      45
Met Leu Ile Gly Val Asn Leu Ile Leu Leu Gly Ser Met Ile Lys Pro
50      55      60
Ser Glu Cys Gln Leu Glu Val Thr Thr Glu Arg Val Gln Arg Gln Ser
65      70      75      80
Val Glu Glu Glu Gly Gly Ile Ala Asn Tyr Asn Thr Ser Ser Lys Glu
85      90      95
Gln Pro Val Val Phe Asn His Val Tyr Asn Ile Asn Val Pro Leu Asp
100      105      110
Asn Leu Cys Ser Ser Gly Leu Glu Ala Ser Ala Glu Gln Glu Val Ser
115      120      125
Ala Glu Asp Glu Thr Leu Ala Glu Tyr Met Gly Gln Thr Ser Asp His
130      135      140
Glu Ser Gln Val Thr Phe Thr His Arg Ile Asn Phe Pro Lys Lys Ala
145      150      155      160
Cys Pro Cys Ala Ser Ser Ala Gln Val Leu Gln Glu Leu Leu Ser Arg
165      170      175
Ile Glu Met Leu Glu Arg Glu Val Ser Val Leu Arg Asp Gln Cys Asn
180      185      190
Ala Asn Cys Cys Gln Glu Ser Ala Ala Thr Gly Gln Leu Asp Tyr Ile

```

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Pro His Cys Ser Gly His Gly Asn Phe Ser Phe Glu Ser Cys Gly Cys |     |     |
| 210   | 215 | 220 |
| Ile Cys Asn Glu Gly Trp Phe Gly Lys Asn Cys Ser Glu Pro Tyr Cys |     |     |
| 225   | 230 | 235 |
| Pro Leu Gly Cys Ser Ser Arg Gly Val Cys Val Asp Gly Gln Cys Ile |     | 240 |
|   | 245 | 250 |
| Cys Asp Ser Glu Tyr Ser Gly Asp Asp Cys Ser Glu Leu Arg Cys Pro |     | 255 |
|   | 260 | 265 |
| Thr Asp Cys Ser Ser Arg Gly Leu Cys Val Asp Gly Glu Cys Val Cys |     | 270 |
|   | 275 | 280 |
| Glu Glu Pro Tyr Thr Gly Glu Asp Cys Arg Glu Leu Arg Cys Pro Gly |     | 285 |
|   | 290 | 295 |
| Asp Cys Ser Gly Lys Gly Arg Cys Ala Asn Gly Thr Cys Leu Cys Glu |     | 300 |
| 305   | 310 | 315 |
| Glu Gly Tyr Val Gly Glu Asp Cys Gly Gln Arg Gln Cys Leu Asn Ala |     | 320 |
|   | 325 | 330 |
| Cys Ser Gly Arg Gly Gln Cys Glu Glu Gly Leu Cys Val Cys Glu Glu |     | 335 |
|   | 340 | 345 |
| Gly Tyr Gln Gly Pro Asp Cys Ser Ala Val Ala Pro Pro Glu Asp Leu |     | 350 |
|   | 355 | 360 |
| Arg Val Ala Gly Ile Ser Asp Arg Ser Ile Glu Leu Glu Trp Asp Gly |     | 365 |
|   | 370 | 375 |
| Pro Met Ala Val Thr Glu Tyr Val Ile Ser Tyr Gln Pro Thr Ala Leu |     | 380 |
| 385   | 390 | 395 |
| Gly Gly Leu Gln Leu Gln Gln Arg Val Pro Gly Asp Trp Ser Gly Val |     | 400 |
|   | 405 | 410 |
| Thr Ile Thr Glu Leu Glu Pro Gly Leu Thr Tyr Asn Ile Ser Val Tyr |     | 415 |
|   | 420 | 425 |
| Ala Val Ile Ser Asn Ile Leu Ser Leu Pro Ile Thr Ala Lys Val Ala |     | 430 |
|   | 435 | 440 |
| Thr His Leu Ser Thr Pro Gln Gly Leu Gln Phe Lys Thr Ile Thr Glu |     | 445 |
|   | 450 | 455 |
| Thr Thr Val Glu Val Gln Trp Glu Pro Phe Ser Phe Ser Phe Asp Gly |     | 460 |
| 465   | 470 | 475 |
| Trp Glu Ile Ser Phe Ile Pro Lys Asn Asn Glu Gly Gly Val Ile Ala |     | 480 |
|   | 485 | 490 |
| Gln Val Pro Ser Asp Val Thr Ser Phe Asn Gln Thr Gly Leu Lys Pro |     | 495 |
|   | 500 | 505 |
| Gly Glu Glu Tyr Ile Val Asn Val Val Ala Leu Lys Glu Gln Ala Arg |     | 510 |
|   | 515 | 520 |
| Ser Pro Pro Thr Ser Ala Ser Val Ser Thr Val Ile Asp Gly Pro Thr |     | 525 |
|   | 530 | 535 |
| Gln Ile Leu Val Arg Asp Val Ser Asp Thr Val Ala Phe Val Glu Trp |     | 540 |
| 545   | 550 | 555 |
| Ile Pro Pro Arg Ala Lys Val Asp Phe Ile Leu Leu Lys Tyr Gly Leu |     | 560 |
|   | 565 | 570 |
| Val Gly Gly Glu Gly Gly Arg Thr Thr Phe Arg Leu Gln Pro Pro Leu |     | 575 |
|   | 580 | 585 |
| Ser Gln Tyr Ser Val Gln Ala Leu Arg Pro Gly Ser Arg Tyr Glu Val |     | 590 |
|   | 595 | 600 |
| Ser Val Ser Ala Val Arg Gly Thr Asn Glu Ser Asp Ser Ala Thr Thr |     | 605 |
|   | 610 | 615 |
| Gln Phe Thr Thr Glu Ile Asp Ala Pro Lys Asn Leu Arg Val Gly Ser |     | 620 |
| 625   | 630 | 635 |
| Arg Thr Ala Thr Ser Leu Asp Leu Glu Trp Asp Asn Ser Glu Ala Glu |     | 640 |
|   | 645 | 650 |
| Val Gln Glu Tyr Lys Val Val Tyr Ile Thr Leu Ala Gly Glu Gln Tyr |     | 655 |
|   | 660 | 665 |
| His Glu Val Leu Val Pro Arg Gly Ile Gly Pro Thr Thr Arg Ala Thr |     | 670 |
|   | 675 | 680 |
| Leu Thr Asp Leu Val Pro Gly Thr Glu Tyr Gly Val Gly Ile Ser Ala |     | 685 |
|   | 690 | 695 |
| Val Met Asn Ser Gln Gln Ser Val Pro Ala Thr Met Asn Ala Arg Thr |     | 700 |

|   |      |      |      |      |  |      |
|---|------|------|------|------|--|------|
| 705   |      | 710  |      | 715  |  | 720  |
| Glu Leu Asp Ser Pro Arg Asp Leu Met Val Thr Ala Ser Ser Glu Thr |      |      |      |      |  |      |
|   | 725  |      | 730  |      |  | 735  |
| Ser Ile Ser Leu Ile Trp Thr Lys Ala Ser Gly Pro Ile Asp His Tyr |      |      |      |      |  |      |
|   | 740  |      | 745  |      |  | 750  |
| Arg Ile Thr Phe Thr Pro Ser Ser Gly Ile Ala Ser Glu Val Thr Val |      |      |      |      |  |      |
|   | 755  |      | 760  |      |  | 765  |
| Pro Lys Asp Arg Thr Ser Tyr Thr Leu Thr Asp Leu Glu Pro Gly Ala |      |      |      |      |  |      |
|   | 770  |      | 775  |      |  | 780  |
| Glu Tyr Ile Ile Ser Val Thr Ala Glu Arg Gly Arg Gln Gln Ser Leu |      |      |      |      |  |      |
| 785   |      | 790  |      | 795  |  | 800  |
| Glu Ser Thr Val Asp Ala Phe Thr Gly Phe Arg Pro Ile Ser His Leu |      |      |      |      |  |      |
|   | 805  |      | 810  |      |  | 815  |
| His Phe Ser His Val Thr Ser Ser Ser Val Asn Ile Thr Trp Ser Asp |      |      |      |      |  |      |
|   | 820  |      | 825  |      |  | 830  |
| Pro Ser Pro Pro Ala Asp Arg Leu Ile Leu Asn Tyr Ser Pro Arg Asp |      |      |      |      |  |      |
|   | 835  |      | 840  |      |  | 845  |
| Glu Glu Glu Glu Met Met Glu Val Ser Leu Asp Ala Thr Lys Arg His |      |      |      |      |  |      |
|   | 850  |      | 855  |      |  | 860  |
| Ala Val Leu Met Gly Leu Gln Pro Ala Thr Glu Tyr Ile Val Asn Leu |      |      |      |      |  |      |
| 865   |      | 870  |      | 875  |  | 880  |
| Val Ala Val His Gly Thr Val Thr Ser Glu Pro Ile Val Gly Ser Ile |      |      |      |      |  |      |
|   | 885  |      | 890  |      |  | 895  |
| Thr Thr Gly Ile Asp Pro Pro Lys Asp Ile Thr Ile Ser Asn Val Thr |      |      |      |      |  |      |
|   | 900  |      | 905  |      |  | 910  |
| Lys Asp Ser Val Met Val Ser Trp Ser Pro Pro Val Ala Ser Phe Asp |      |      |      |      |  |      |
|   | 915  |      | 920  |      |  | 925  |
| Tyr Tyr Arg Val Ser Tyr Arg Pro Thr Gln Val Gly Arg Leu Asp Ser |      |      |      |      |  |      |
|   | 930  |      | 935  |      |  | 940  |
| Ser Val Val Pro Asn Thr Val Thr Glu Phe Thr Ile Thr Arg Leu Asn |      |      |      |      |  |      |
| 945   |      | 950  |      | 955  |  | 960  |
| Pro Ala Thr Glu Tyr Glu Ile Ser Leu Asn Ser Val Arg Gly Arg Glu |      |      |      |      |  |      |
|   | 965  |      | 970  |      |  | 975  |
| Glu Ser Glu Arg Ile Cys Thr Leu Val His Thr Ala Met Asp Asn Pro |      |      |      |      |  |      |
|   | 980  |      | 985  |      |  | 990  |
| Val Asp Leu Ile Ala Thr Asn Ile Thr Pro Thr Glu Ala Leu Leu Gln |      |      |      |      |  |      |
|   | 995  |      | 1000 |      |  | 1005 |
| Trp Lys Ala Pro Val Gly Glu Val Glu Asn Tyr Val Ile Val Leu Thr |      |      |      |      |  |      |
|   | 1010 |      | 1015 |      |  | 1020 |
| His Phe Ala Val Ala Gly Glu Thr Ile Leu Val Asp Gly Val Ser Glu |      |      |      |      |  |      |
| 1025  |      | 1030 |      | 1035 |  | 1040 |
| Glu Phe Arg Leu Val Asp Leu Leu Pro Ser Thr His Tyr Thr Ala Thr |      |      |      |      |  |      |
|   | 1045 |      | 1050 |      |  | 1055 |
| Met Tyr Ala Thr Asn Gly Pro Leu Thr Ser Gly Thr Ile Ser Thr Asn |      |      |      |      |  |      |
|   | 1060 |      | 1065 |      |  | 1070 |
| Phe Ser Thr Leu Leu Asp Pro Pro Ala Asn Leu Thr Ala Ser Glu Val |      |      |      |      |  |      |
|   | 1075 |      | 1080 |      |  | 1085 |
| Thr Arg Gln Ser Ala Leu Ile Ser Trp Gln Pro Pro Arg Ala Glu Ile |      |      |      |      |  |      |
|   | 1090 |      | 1095 |      |  | 1100 |
| Glu Asn Tyr Val Leu Thr Tyr Lys Ser Thr Asp Gly Ser Arg Lys Glu |      |      |      |      |  |      |
| 1105  |      | 1110 |      | 1115 |  | 1120 |
| Leu Ile Val Asp Ala Glu Asp Thr Trp Ile Arg Leu Glu Gly Leu Leu |      |      |      |      |  |      |
|   | 1125 |      | 1130 |      |  | 1135 |
| Glu Asn Thr Asp Tyr Thr Val Leu Leu Gln Ala Ala Gln Asp Thr Thr |      |      |      |      |  |      |
|   | 1140 |      | 1145 |      |  | 1150 |
| Trp Ser Ser Ile Thr Ser Thr Ala Phe Thr Thr Gly Gly Arg Val Phe |      |      |      |      |  |      |
|   | 1155 |      | 1160 |      |  | 1165 |
| Pro His Pro Gln Asp Cys Ala Gln His Leu Met Asn Gly Asp Thr Leu |      |      |      |      |  |      |
|   | 1170 |      | 1175 |      |  | 1180 |
| Ser Gly Val Tyr Pro Ile Phe Leu Asn Gly Glu Leu Ser Gln Lys Leu |      |      |      |      |  |      |
| 1185  |      | 1190 |      | 1195 |  | 1200 |
| Gln Val Tyr Cys Asp Met Thr Thr Asp Gly Gly Gly Trp Ile Val Phe |      |      |      |      |  |      |
|   | 1205 |      | 1210 |      |  | 1215 |
| Gln Arg Arg Gln Asn Gly Gln Thr Asp Phe Phe Arg Lys Trp Ala Asp |      |      |      |      |  |      |

|   |      |      |      |      |      |
|---|------|------|------|------|------|
|   | 1220 |      | 1225 |      | 1230 |
| Tyr Arg Val Gly Phe Gly Asn Val Glu Asp Glu Phe Trp Leu Gly Leu |      |      |      |      |      |
| 1235  |      | 1240 |      | 1245 |      |
| Asp Asn Ile His Arg Ile Thr Ser Gln Gly Arg Tyr Glu Leu Arg Val |      |      |      |      |      |
| 1250  |      | 1255 |      | 1260 |      |
| Asp Met Arg Asp Gly Gln Glu Ala Ala Phe Ala Ser Tyr Asp Arg Phe |      |      |      |      |      |
| 1265  |      | 1270 |      | 1275 | 1280 |
| Ser Val Glu Asp Ser Arg Asn Leu Tyr Lys Leu Arg Ile Gly Ser Tyr |      |      |      |      |      |
|   | 1285 |      | 1290 |      | 1295 |
| Asn Gly Thr Ala Gly Asp Ser Leu Ser Tyr His Gln Gly Arg Pro Phe |      |      |      |      |      |
|   | 1300 |      | 1305 |      | 1310 |
| Ser Thr Glu Asp Arg Asp Asn Asp Val Ala Val Thr Asn Cys Ala Met |      |      |      |      |      |
|   | 1315 |      | 1320 |      | 1325 |
| Ser Tyr Lys Gly Ala Trp Trp Tyr Lys Asn Cys His Arg Thr Asn Leu |      |      |      |      |      |
|   | 1330 |      | 1335 |      | 1340 |
| Asn Gly Lys Tyr Gly Glu Ser Arg His Ser Gln Gly Ile Asn Trp Tyr |      |      |      |      |      |
| 1345  |      | 1350 |      | 1355 | 1360 |
| His Trp Lys Gly His Glu Phe Ser Ile Pro Phe Val Glu Met Lys Met |      |      |      |      |      |
|   | 1365 |      | 1370 |      | 1375 |
| Arg Pro Tyr Asn His Arg Leu Met Ala Gly Arg Lys Arg Gln Ser Leu |      |      |      |      |      |
|   | 1380 |      | 1385 |      | 1390 |
| Gln Phe   |      |      |      |      |      |
| 1394  |      |      |      |      |      |

<210> 3175  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

|   |                 |
|---|-----------------|
|   | <400> 3175      |
| Arg Leu Gln Leu Pro Ala Cys Pro Ala Leu Ser Ala Ala His Pro Leu |                 |
| 1   | 5 10 15         |
| Ala Leu Pro Ser Phe Ser Ser Gln Cys His Arg Ala Glu Ala Arg Ala |                 |
|   | 20 25 30        |
| Ala Ala Ala Ala Thr Ala Glu Gly Thr Met Ala Ser Gly Val Thr Val |                 |
|   | 35 40 45        |
| Asn Asp Glu Val Ile Lys Val Phe Asn Asp Met Lys Val Arg Lys Ser |                 |
|   | 50 55 60        |
| Ser Thr Gln Glu Glu Ile Lys Lys Arg Lys Lys Ala Val Leu Phe Cys |                 |
|   | 65 70 75 80     |
| Leu Ser Asp Asp Lys Arg Gln Ile Ile Val Glu Glu Ala Lys Gln Ile |                 |
|   | 85 90 95        |
| Leu Val Gly Asp Ile Gly Asp Thr Val Glu Asp Pro Tyr Thr Ser Phe |                 |
|   | 100 105 110     |
| Val Lys Leu Leu Pro Leu Asn Asp Cys Arg Tyr Ala Leu Tyr Asp Ala |                 |
|   | 115 120 125     |
| Thr Tyr Glu Thr Lys Glu Ser Lys Lys Glu Asp Leu Val Phe Ile Phe |                 |
|   | 130 135 140     |
| Trp Ala Pro Glu Ser Ala Pro Leu Lys Ser Lys Met Ile Tyr Ala Ser |                 |
|   | 145 150 155 160 |
| Ser Lys Asp Ala Ile Lys Lys Lys Phe Thr Gly Ile Lys His Glu Trp |                 |
|   | 165 170 175     |
| Gln Val Asn Gly Leu Asp Asp Ile Lys Asp Arg Ser Thr Leu Gly Glu |                 |
|   | 180 185 190     |
| Lys Leu Gly Gly Asn Val Val Val Ser Leu Glu Gly Lys Pro Leu     |                 |
|   | 195 200 205 207 |

<210> 3176  
 <211> 489



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3176

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Pro Arg Gly Cys Trp Ser Ser Cys Leu Asp Ala Met Phe Arg Leu Asn
 1      5      10      15
Ser Leu Ser Ala Leu Ala Glu Leu Ala Val Gly Ser Arg Trp Tyr His
      20      25      30
Gly Gly Ser Gln Pro Ile Gln Ile Arg Arg Arg Leu Met Met Val Ala
      35      40      45
Phe Leu Gly Ala Ser Ala Val Thr Ala Ser Thr Gly Leu Leu Trp Lys
      50      55      60
Arg Ala His Ala Glu Ser Pro Pro Cys Val Asp Asn Leu Lys Ser Asp
      65      70      75      80
Ile Gly Asp Lys Gly Lys Asn Lys Asp Glu Gly Asp Val Cys Asn His
      85      90      95
Glu Lys Lys Thr Ala Asp Leu Ala Pro His Pro Glu Glu Lys Lys Lys
      100      105      110
Lys Arg Ser Gly Phe Arg Asp Arg Lys Val Met Glu Tyr Glu Asn Arg
      115      120      125
Ile Arg Ala Tyr Ser Thr Pro Asp Lys Ile Phe Arg Tyr Phe Ala Thr
      130      135      140
Leu Lys Val Ile Ser Glu Pro Gly Glu Ala Glu Val Phe Met Thr Pro
      145      150      155      160
Glu Asp Phe Val Arg Ser Ile Thr Pro Asn Glu Lys Gln Pro Glu His
      165      170      175
Leu Gly Leu Asp Gln Tyr Ile Ile Lys Arg Phe Asp Gly Lys Thr Glu
      180      185      190
Lys Ile Ser Gln Glu Arg Glu Lys Phe Ala Asp Glu Gly Ser Ile Phe
      195      200      205
Tyr Thr Leu Gly Glu Cys Gly Leu Ile Ser Phe Ser Asp Tyr Ile Phe
      210      215      220
Leu Thr Thr Val Leu Ser Thr Pro Gln Arg Asn Phe Glu Ile Ala Phe
      225      230      235      240
Lys Met Phe Asp Leu Asn Gly Asp Gly Glu Val Asp Met Glu Glu Phe
      245      250      255
Glu Gln Val Gln Ser Ile Ile Arg Ser Gln Thr Ser Met Gly Met Arg
      260      265      270
His Arg Asp Arg Pro Thr Thr Gly Asn Thr Leu Lys Ser Gly Leu Cys
      275      280      285
Ser Ala Leu Thr Thr Tyr Phe Phe Gly Ala Asp Leu Lys Gly Lys Leu
      290      295      300
Thr Ile Lys Asn Phe Leu Glu Phe Gln Arg Lys Leu Gln His Asp Val
      305      310      315      320
Leu Lys Leu Glu Phe Glu Arg His Asp Pro Val Asp Gly Arg Ile Thr
      325      330      335
Glu Arg Gln Phe Gly Gly Met Leu Leu Ala Tyr Ser Gly Val Gln Ser
      340      345      350
Lys Lys Leu Thr Ala Met Gln Arg Gln Leu Lys Lys His Phe Lys Glu
      355      360      365
Gly Lys Gly Leu Thr Phe Gln Glu Val Glu Asn Phe Phe Thr Phe Leu
      370      375      380
Lys Asn Ile Asn Asp Val Asp Thr Ala Leu Ser Phe Tyr His Met Ala
      385      390      395      400
Gly Ala Ser Leu Asp Lys Val Thr Met Gln Gln Val Ala Arg Thr Val
      405      410      415
Ala Lys Val Glu Leu Ser Asp His Val Cys Asp Val Val Phe Ala Leu
      420      425      430
Phe Asp Cys Asp Gly Asn Gly Glu Leu Ser Asn Lys Glu Phe Val Ser
      435      440      445
Ile Met Lys Gln Arg Leu Met Arg Gly Leu Glu Lys Pro Lys Asp Met
      450      455      460
Gly Phe Thr Arg Leu Met Gln Ala Met Trp Lys Cys Ala Gln Glu Thr

```

465  
Ala Trp Asp Phe Ala Leu Pro Lys Gln  
485 489

475

480

<210> 3177  
<211> 155  
<212> PRT  
<213> Homo sapiens

<400> 3177  
Leu Gly Val Val Gly Ser Gly Ala Ala Val Gly Gly Arg Gln Ala Ala  
1 5 10 15  
Arg Gly Ala Ala Leu Gly Arg Arg Pro Met Ala Ala Val Leu Gly Ala  
20 25 30  
Leu Gly Ala Thr Arg Arg Leu Leu Ala Ala Leu Arg Gly Gln Ser Leu  
35 40 45  
Gly Leu Ala Ala Met Ser Ser Gly Thr His Arg Leu Thr Ala Glu Glu  
50 55 60  
Arg Asn Gln Ala Ile Leu Asp Leu Lys Ala Ala Gly Trp Ser Glu Leu  
65 70 75 80  
Ser Glu Arg Asp Ala Ile Tyr Lys Glu Phe Ser Phe His Asn Phe Asn  
85 90 95  
Gln Ala Phe Gly Phe Met Ser Arg Val Ala Leu Gln Ala Glu Lys Met  
100 105 110  
Asn His His Pro Glu Trp Phe Asn Val Tyr Asn Lys Val Gln Ile Thr  
115 120 125  
Leu Thr Ser His Asp Cys Gly Glu Leu Thr Lys Lys Asp Val Lys Leu  
130 135 140  
Ala Lys Phe Ile Glu Lys Ala Ala Ala Ser Val  
145 150 155

<210> 3178  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 3178  
Ala Cys Gly Cys Arg Ser Phe Cys Gly Ser Thr Val Met Ser Leu Leu  
1 5 10 15  
Leu Tyr Tyr Ala Leu Pro Ala Leu Gly Ser Tyr Ala Met Leu Ser Ile  
20 25 30  
Phe Phe Leu Arg Arg Pro His Leu Leu His Thr Pro Arg Ala Pro Thr  
35 40 45  
Phe Arg Ile Arg Leu Gly Ala His Arg Gly Gly Ser Gly Glu Leu Leu  
50 55 60  
Glu Asn Thr Met Glu Ala Met Glu Asn Ser Met Ala Gln Arg Ser Asp  
65 70 75 80  
Leu Leu Glu Leu Asp Cys Gln Leu Thr Arg Asp Arg Val Val Val Val  
85 90 95  
Ser His Asp Glu Asn Leu Cys Arg Gln Ser Gly Leu Asn Arg Asp Val  
100 105 110  
Gly Ser Leu Asp Phe Glu Asp Leu Pro Leu Tyr Lys Glu Lys Leu Glu  
115 120 125  
Val Tyr Phe Ser Pro Gly His Phe Ala His Gly Ser Asp Arg Arg Met  
130 135 140  
Val Arg Leu Glu Asp Leu Phe Gln Arg Phe Pro Arg Thr Pro Met Ser  
145 150 155 160  
Val Glu Ile Lys Gly Lys Asn Glu Glu Leu Ile Arg Glu Ile Ala Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Leu | Val | Arg | Arg | Tyr | Asp | Arg | Asn | Glu | Ile | Thr | Ile | Trp | Ala | Ser | Glu |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Lys | Ser | Ser | Val | Met | Lys | Lys | Cys | Lys |     |     |     |     |     |     |     |  |  |
|     |     |     | 195 |     |     |     | 200 | 201 |     |     |     |     |     |     |     |  |  |

<210> 3179  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 3179

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gln | Glu | Thr | Ser | Lys | Met | Glu | Thr | Leu | Ser | Phe | Pro | Arg | Tyr | Asn | Val |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ala | Glu | Ile | Val | Ile | His | Ile | Arg | Asn | Lys | Ile | Leu | Thr | Gly | Ala | Asp |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gly | Lys | Asn | Leu | Thr | Lys | Asn | Asp | Leu | Tyr | Pro | Asn | Pro | Lys | Pro | Glu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Val | Leu | His | Met | Ile | Tyr | Met | Arg | Ala | Leu | Gln | Ile | Val | Tyr | Gly | Ile |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Arg | Leu | Glu | His | Phe | Tyr | Met | Met | Pro | Val | Asn | Ser | Glu | Val | Met | Tyr |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Pro | His | Leu | Met | Glu | Gly | Phe | Leu | Pro | Phe | Ser | Asn | Leu | Val | Thr | His |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Leu | Asp | Ser | Phe | Leu | Pro | Ile | Cys | Arg | Val | Asn | Asp | Phe | Glu | Thr | Ala |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Asp | Ile | Leu | Cys | Pro | Lys | Ala | Lys | Arg | Thr | Ser | Arg | Phe | Leu | Ser | Gly |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Ile | Asn | Phe | Ile | His | Phe | Arg | Glu | Ala | Cys | Arg | Glu | Thr | Tyr | Met |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Glu | Phe | Leu | Trp | Gln | Tyr | Lys | Ser | Ser | Ala | Asp | Lys | Met | Gln | Gln | Leu |  |  |
|     | 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |  |  |
| Asn | Ala | Ala | His | Gln | Glu | Ala | Leu | Met | Lys | Leu | Glu | Arg | Leu | Asp | Ser |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Val | Pro | Val | Glu | Glu | Gln | Glu | Glu | Phe | Lys | Gln | Leu | Ser | Asp | Gly | Ile |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gln | Glu | Leu | Gln | Gln | Ser | Leu | Asn | Gln | Asp | Phe | His | Gln | Lys | Thr | Ile |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Val | Leu | Gln | Glu | Gly | Asn | Ser | Gln | Lys | Lys | Ser | Asn | Ile | Ser | Glu | Lys |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Thr | Lys | Arg | Leu | Asn | Glu | Leu | Lys | Leu | Ser | Val | Val | Ser | Leu | Lys | Glu |  |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Ile | Gln | Glu | Ser | Leu | Lys | Thr | Lys | Ile | Val | Asp | Ser | Pro | Glu | Lys | Leu |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Lys | Asn | Tyr | Lys | Glu | Lys | Met | Lys | Asp | Thr | Val | Gln | Lys | Leu | Lys | Asn |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ala | Arg | Gln | Glu | Val | Val | Glu | Lys | Tyr | Glu | Ile | Tyr | Gly | Asp | Ser | Val |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Asp | Cys | Leu | Pro | Ser | Cys | Gln | Leu | Glu | Val | Gln | Leu | Tyr | Gln | Lys | Lys |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ile | Gln | Asp | Leu | Ser | Asp | Asn | Arg | Glu | Lys | Leu | Ala | Ser | Ile | Leu | Lys |  |  |
|     | 305 |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |  |  |
| Glu | Ser | Leu | Asn | Leu | Glu | Asp | Gln | Ile | Glu | Ser | Asp | Glu | Ser | Glu | Leu |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Lys | Lys | Leu | Lys | Thr | Glu | Glu | Asn | Ser | Phe | Lys | Arg | Leu | Met | Ile | Val |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Lys | Lys | Glu | Lys | Leu | Ala | Thr | Ala | Gln | Phe | Lys | Ile | Asn | Lys | Lys | His |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Glu | Asp | Val | Lys | Gln | Tyr | Lys | Arg | Thr | Val | Ile | Glu | Asp | Cys | Asn | Lys |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Val | Gln | Glu | Lys | Arg | Gly | Ala | Val | Tyr | Glu | Arg | Val | Thr | Thr | Ile | Asn |  |  |

|   |   |     |     |     |  |     |
|---|---|-----|-----|-----|--|-----|
| 385   |   | 390 |     | 395 |  | 400 |
| His Glu Ile Gln Lys   | Ile Arg Leu Gly Ile Gln Gln Leu Lys Asp Ala |     |     |     |  |     |
|   | 405   |     | 410 |     |  | 415 |
| Ala Asp Arg Glu Lys Leu Lys Ser Gln Glu Ile Phe Leu Asn Leu Lys |   |     |     |     |  |     |
|   | 420   |     | 425 |     |  | 430 |
| Thr Ala Leu Glu Lys Tyr His Asp Gly Ile Glu Lys Ala Ala Glu Asp |   |     |     |     |  |     |
|   | 435   |     | 440 |     |  | 445 |
| Ser Tyr Ala Lys Ile Asp Glu Lys Thr Ala Glu Leu Lys Arg Lys Met |   |     |     |     |  |     |
|   | 450   |     | 455 |     |  | 460 |
| Phe Lys Met Ser Thr   |   |     |     |     |  |     |
| 465   |   | 469 |     |     |  |     |

<210> 3180  
 <211> 2263  
 <212> PRT  
 <213> Homo sapiens

<400> 3180

|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
|---|----|---|--|--|--|-----|--|--|--|--|--|--|--|-----|----|--|--|--|-----|
| Gly Asn Met Ala Cys Trp Pro Gln Leu Arg Leu Leu Leu Trp Lys Asn |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
| 1   |    | 5 |  |  |  | 10  |  |  |  |  |  |  |  |     | 15 |  |  |  |     |
| Leu Thr Phe Arg Arg Arg Gln Thr Cys Gln Leu Leu Leu Glu Val Ala |    |   |  |  |  | 25  |  |  |  |  |  |  |  | 30  |    |  |  |  |     |
|   | 20 |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
| Trp Pro Leu Phe Ile Phe Leu Ile Leu Ile Ser Val Arg Leu Ser Tyr |    |   |  |  |  | 40  |  |  |  |  |  |  |  | 45  |    |  |  |  |     |
|   | 35 |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
| Pro Pro Tyr Glu Gln His Glu Cys His Phe Pro Asn Lys Ala Met Pro |    |   |  |  |  | 55  |  |  |  |  |  |  |  | 60  |    |  |  |  |     |
|   | 50 |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
| Ser Ala Gly Thr Leu Pro Trp Val Gln Gly Ile Ile Cys Asn Ala Asn |    |   |  |  |  | 70  |  |  |  |  |  |  |  | 75  |    |  |  |  | 80  |
|   | 65 |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |
| Asn Pro Cys Phe Arg Tyr Pro Thr Pro Gly Glu Ala Pro Gly Val Val |    |   |  |  |  | 85  |  |  |  |  |  |  |  | 90  |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 95  |
| Gly Asn Phe Asn Lys Ser Ile Val Ala Arg Leu Phe Ser Asp Ala Arg |    |   |  |  |  | 100 |  |  |  |  |  |  |  | 105 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 110 |
| Arg Leu Leu Leu Tyr Ser Gln Lys Asp Thr Ser Met Lys Asp Met Arg |    |   |  |  |  | 115 |  |  |  |  |  |  |  | 120 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 125 |
| Lys Val Leu Arg Thr Leu Gln Gln Ile Lys Lys Ser Ser Ser Asn Leu |    |   |  |  |  | 130 |  |  |  |  |  |  |  | 135 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 140 |
| Lys Leu Gln Asp Phe Leu Val Asp Asn Glu Thr Phe Ser Gly Phe Leu |    |   |  |  |  | 145 |  |  |  |  |  |  |  | 150 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 155 |
| Tyr His Asn Leu Ser Leu Pro Lys Ser Thr Val Asp Lys Met Leu Arg |    |   |  |  |  | 165 |  |  |  |  |  |  |  | 170 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 175 |
| Ala Asp Val Ile Leu His Lys Val Phe Leu Gln Gly Tyr Gln Leu His |    |   |  |  |  | 180 |  |  |  |  |  |  |  | 185 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 190 |
| Leu Thr Ser Leu Cys Asn Gly Ser Lys Ser Glu Glu Met Ile Gln Leu |    |   |  |  |  | 195 |  |  |  |  |  |  |  | 200 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 205 |
| Gly Asp Gln Glu Val Ser Glu Leu Cys Gly Leu Pro Arg Glu Lys Leu |    |   |  |  |  | 210 |  |  |  |  |  |  |  | 215 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 220 |
| Ala Ala Ala Glu Arg Val Leu Arg Ser Asn Met Asp Ile Leu Lys Pro |    |   |  |  |  | 225 |  |  |  |  |  |  |  | 230 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 235 |
| Ile Leu Arg Thr Leu Asn Ser Thr Ser Pro Phe Pro Ser Lys Glu Leu |    |   |  |  |  | 245 |  |  |  |  |  |  |  | 250 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 255 |
| Ala Glu Ala Thr Lys Thr Leu Leu His Ser Leu Gly Thr Leu Ala Gln |    |   |  |  |  | 260 |  |  |  |  |  |  |  | 265 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 270 |
| Glu Leu Phe Ser Met Arg Ser Trp Ser Asp Met Arg Gln Glu Val Met |    |   |  |  |  | 275 |  |  |  |  |  |  |  | 280 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 285 |
| Phe Leu Thr Asn Val Asn Ser Ser Ser Ser Ser Thr Gln Ile Tyr Gln |    |   |  |  |  | 290 |  |  |  |  |  |  |  | 295 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 300 |
| Ala Val Ser Arg Ile Val Cys Gly His Pro Glu Gly Gly Gly Leu Lys |    |   |  |  |  | 305 |  |  |  |  |  |  |  | 310 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 315 |
| Ile Lys Ser Leu Asn Trp Tyr Glu Asp Asn Asn Tyr Lys Ala Leu Phe |    |   |  |  |  | 325 |  |  |  |  |  |  |  | 330 |    |  |  |  |     |
|   |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  | 335 |
| Gly Gly Asn Gly Thr Glu Glu Asp Ala Glu Thr Phe Tyr Asp Asn Ser |    |   |  |  |  |     |  |  |  |  |  |  |  |     |    |  |  |  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Thr | Thr | Pro | Tyr | Cys | Asn | Asp | Leu | Met | Lys | Asn | Leu | Glu | Ser | Ser | Pro |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Leu | Ser | Arg | Ile | Ile | Trp | Lys | Ala | Leu | Lys | Pro | Leu | Leu | Val | Gly | Lys |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Ile | Leu | Tyr | Thr | Pro | Asp | Thr | Pro | Ala | Thr | Arg | Gln | Val | Met | Ala | Glu |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Val | Asn | Lys | Thr | Phe | Gln | Glu | Leu | Ala | Val | Phe | His | Asp | Leu | Glu | Gly |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Met | Trp | Glu | Glu | Leu | Ser | Pro | Lys | Ile | Trp | Thr | Phe | Met | Glu | Asn | Ser |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Gln | Glu | Met | Asp | Leu | Val | Arg | Met | Leu | Leu | Asp | Ser | Arg | Asp | Asn | Asp |  |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| His | Phe | Trp | Glu | Gln | Gln | Leu | Asp | Gly | Leu | Asp | Trp | Thr | Ala | Gln | Asp |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Ile | Val | Ala | Phe | Leu | Ala | Lys | His | Pro | Glu | Asp | Val | Gln | Ser | Ser | Asn |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Gly | Ser | Val | Tyr | Thr | Trp | Arg | Glu | Ala | Phe | Asn | Glu | Thr | Asn | Gln | Ala |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Ile | Arg | Thr | Ile | Ser | Arg | Phe | Met | Glu | Cys | Val | Asn | Leu | Asn | Lys | Leu |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Glu | Pro | Ile | Ala | Thr | Glu | Val | Trp | Leu | Ile | Asn | Lys | Ser | Met | Glu | Leu |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |  |  |
| Leu | Asp | Glu | Arg | Lys | Phe | Trp | Ala | Gly | Ile | Val | Phe | Thr | Gly | Ile | Thr |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Pro | Gly | Ser | Ile | Glu | Leu | Pro | His | His | Val | Lys | Tyr | Lys | Ile | Arg | Met |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Gly | Ile | Asp | Asn | Val | Glu | Arg | Thr | Asn | Lys | Ile | Lys | Asp | Gly | Tyr | Trp |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |  |
| Asp | Pro | Gly | Pro | Arg | Ala | Asp | Pro | Phe | Glu | Asp | Met | Arg | Tyr | Val | Trp |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Gly | Gly | Phe | Ala | Tyr | Leu | Gln | Asp | Val | Val | Glu | Gln | Ala | Ile | Ile | Arg |  |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |  |
| Val | Leu | Thr | Gly | Thr | Glu | Lys | Lys | Thr | Gly | Val | Tyr | Met | Gln | Gln | Met |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Pro | Tyr | Pro | Cys | Tyr | Val | Asp | Asp | Ile | Phe | Leu | Arg | Val | Met | Ser | Arg |  |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |  |
| Ser | Met | Pro | Leu | Phe | Met | Thr | Leu | Ala | Trp | Ile | Tyr | Ser | Val | Ala | Val |  |  |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Ile | Ile | Lys | Gly | Ile | Val | Tyr | Glu | Lys | Glu | Ala | Arg | Leu | Lys | Glu | Thr |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| Met | Arg | Ile | Met | Gly | Leu | Asp | Asn | Ser | Ile | Leu | Trp | Phe | Ser | Trp | Phe |  |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Ile | Ser | Ser | Leu | Ile | Pro | Leu | Leu | Val | Ser | Ala | Gly | Leu | Leu | Val | Val |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     |     | 700 |     |     |     |  |  |
| Ile | Leu | Lys | Leu | Gly | Asn | Leu | Leu | Pro | Tyr | Ser | Asp | Pro | Ser | Val | Val |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Phe | Val | Phe | Leu | Ser | Val | Phe | Ala | Val | Val | Thr | Ile | Leu | Gln | Cys | Phe |  |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Leu | Ile | Ser | Thr | Leu | Phe | Ser | Arg | Ala | Asn | Leu | Ala | Ala | Ala | Cys | Gly |  |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |  |
| Gly | Ile | Ile | Tyr | Phe | Thr | Leu | Tyr | Leu | Pro | Tyr | Val | Leu | Cys | Val | Ala |  |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |  |
| Trp | Gln | Asp | Tyr | Val | Gly | Phe | Thr | Leu | Lys | Ile | Phe | Ala | Ser | Leu | Leu |  |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Ser | Pro | Val | Ala | Phe | Gly | Phe | Gly | Cys | Glu | Tyr | Phe | Ala | Leu | Phe | Glu |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Glu | Gln | Gly | Ile | Gly | Val | Gln | Trp | Asp | Asn | Leu | Phe | Glu | Ser | Pro | Val |  |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |
| Glu | Glu | Asp | Gly | Phe | Asn | Leu | Thr | Thr | Ser | Val | Ser | Met | Met | Leu | Phe |  |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Asp | Thr | Phe | Leu | Tyr | Gly | Val | Met | Thr | Trp | Tyr | Ile | Glu | Ala | Val | Phe |  |  |
|     | 835 |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |  |  |
| Pro | Gly | Gln | Tyr | Gly | Ile | Pro | Arg | Pro | Trp | Tyr | Phe | Pro | Cys | Thr | Lys |  |  |

|   |      |      |
|---|------|------|
| 850   | 855  | 860  |
| Ser Tyr Trp Phe Gly Glu Glu Ser Asp Glu Lys Ser His Pro Gly Ser |      |      |
| 865   | 870  | 875  |
| Asn Gln Lys Arg Ile Ser Glu Ile Cys Met Glu Glu Glu Pro Thr His |      | 880  |
|   | 885  | 890  |
| Leu Lys Leu Gly Val Ser Ile Gln Asn Leu Val Lys Val Tyr Arg Asp |      | 895  |
|   | 900  | 905  |
| Gly Met Lys Val Ala Val Asp Gly Leu Ala Leu Asn Phe Tyr Glu Gly |      | 910  |
|   | 915  | 920  |
| Gln Ile Thr Ser Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr |      | 925  |
|   | 930  | 935  |
| Met Ser Ile Leu Thr Gly Leu Phe Pro Pro Thr Ser Gly Thr Ala Tyr |      | 940  |
| 945   | 950  | 955  |
| Ile Leu Gly Lys Asp Ile Arg Ser Glu Met Ser Thr Ile Arg Gln Asn |      | 960  |
|   | 965  | 970  |
| Leu Gly Val Cys Pro Gln His Asn Val Leu Phe Asp Met Leu Thr Val |      | 975  |
|   | 980  | 985  |
| Glu Glu His Ile Trp Phe Tyr Ala Arg Leu Lys Gly Leu Ser Glu Lys |      | 990  |
|   | 995  | 1000 |
| His Val Lys Ala Glu Met Glu Gln Met Ala Leu Asp Val Gly Leu Pro |      | 1005 |
| 1010  | 1015 | 1020 |
| Ser Ser Lys Leu Lys Ser Lys Thr Ser Gln Leu Ser Gly Gly Met Gln |      | 1025 |
|   | 1030 | 1035 |
| Arg Lys Leu Ser Val Ala Leu Ala Phe Val Gly Gly Ser Lys Val Val |      | 1040 |
|   | 1045 | 1050 |
| Ile Leu Asp Glu Pro Thr Ala Gly Val Asp Pro Tyr Ser Arg Arg Gly |      | 1055 |
|   | 1060 | 1065 |
| Ile Trp Glu Leu Leu Leu Lys Tyr Arg Gln Gly Arg Thr Ile Ile Leu |      | 1070 |
| 1075  | 1080 | 1085 |
| Ser Thr His His Met Asp Glu Ala Asp Val Leu Gly Asp Arg Ile Ala |      | 1090 |
|   | 1095 | 1100 |
| Ile Ile Ser His Gly Lys Leu Cys Cys Val Gly Ser Ser Leu Phe Leu |      | 1105 |
|   | 1110 | 1115 |
| Lys Asn Gln Leu Gly Thr Gly Tyr Tyr Leu Thr Leu Val Lys Lys Asp |      | 1120 |
|   | 1125 | 1130 |
| Val Glu Ser Ser Leu Ser Ser Cys Arg Asn Ser Ser Ser Thr Val Ser |      | 1135 |
|   | 1140 | 1145 |
| Tyr Leu Lys Lys Glu Asp Ser Val Ser Gln Ser Ser Ser Asp Ala Gly |      | 1150 |
|   | 1155 | 1160 |
| Leu Gly Ser Asp His Glu Ser Asp Thr Leu Thr Ile Asp Val Ser Ala |      | 1165 |
|   | 1170 | 1175 |
| Ile Ser Asn Leu Ile Arg Lys His Val Ser Glu Ala Arg Leu Val Glu |      | 1180 |
| 1185  | 1190 | 1195 |
| Asp Ile Gly His Glu Leu Thr Tyr Val Leu Pro Tyr Glu Ala Ala Lys |      | 1200 |
|   | 1205 | 1210 |
| Glu Gly Ala Phe Val Glu Leu Phe His Glu Ile Asp Asp Arg Leu Ser |      | 1215 |
|   | 1220 | 1225 |
| Asp Leu Gly Ile Ser Ser Tyr Gly Ile Ser Glu Thr Thr Leu Glu Glu |      | 1230 |
|   | 1235 | 1240 |
| Ile Phe Leu Lys Val Ala Glu Glu Ser Gly Val Asp Ala Glu Thr Ser |      | 1245 |
|   | 1250 | 1255 |
| Asp Gly Thr Leu Pro Ala Arg Arg Asn Arg Arg Ala Phe Gly Asp Lys |      | 1260 |
| 1265  | 1270 | 1275 |
| Gln Ser Cys Leu Arg Pro Phe Thr Glu Asp Asp Ala Ala Asp Pro Asn |      | 1280 |
|   | 1285 | 1290 |
| Asp Ser Asp Ile Asp Pro Glu Ser Arg Glu Thr Asp Leu Leu Ser Gly |      | 1295 |
|   | 1300 | 1305 |
| Met Asp Gly Lys Gly Ser Tyr Gln Val Lys Gly Trp Lys Leu Thr Gln |      | 1310 |
|   | 1315 | 1320 |
| Gln Gln Phe Val Ala Leu Leu Trp Lys Arg Leu Leu Ile Ala Arg Arg |      | 1325 |
|   | 1330 | 1335 |
| Ser Arg Lys Gly Phe Phe Ala Gln Ile Val Leu Pro Ala Val Phe Val |      | 1340 |
| 1345  | 1350 | 1355 |
| Cys Ile Ala Leu Val Phe Ser Leu Ile Val Pro Pro Phe Gly Lys Tyr |      | 1360 |



|   |      |      |      |      |      |
|---|------|------|------|------|------|
|   | 1365 |      | 1370 |      | 1375 |
| Pro Ser Leu Glu Leu Gln Pro Trp Met Tyr Asn Glu Gln Tyr Thr Phe |      |      |      |      |      |
|   | 1380 |      | 1385 |      | 1390 |
| Val Ser Asn Asp Ala Pro Glu Asp Thr Gly Thr Leu Glu Leu Leu Asn |      |      |      |      |      |
|   | 1395 |      | 1400 |      | 1405 |
| Ala Leu Thr Lys Asp Pro Gly Phe Gly Thr Arg Cys Met Glu Gly Asn |      |      |      |      |      |
|   | 1410 |      | 1415 |      | 1420 |
| Pro Ile Pro Asp Thr Pro Cys Gln Ala Gly Glu Glu Glu Trp Thr Thr |      |      |      |      |      |
| 1425  |      | 1430 |      | 1435 | 1440 |
| Ala Pro Val Pro Gln Thr Ile Met Asp Leu Phe Gln Asn Gly Asn Trp |      |      |      |      |      |
|   | 1445 |      | 1450 |      | 1455 |
| Thr Met Gln Asn Pro Ser Pro Ala Cys Gln Cys Ser Ser Asp Lys Ile |      |      |      |      |      |
|   | 1460 |      | 1465 |      | 1470 |
| Lys Lys Met Leu Pro Val Cys Pro Pro Gly Ala Gly Gly Leu Pro Pro |      |      |      |      |      |
|   | 1475 |      | 1480 |      | 1485 |
| Pro Gln Arg Lys Gln Asn Thr Ala Asp Ile Leu Gln Asp Leu Thr Gly |      |      |      |      |      |
|   | 1490 |      | 1495 |      | 1500 |
| Arg Asn Ile Ser Asp Tyr Leu Val Lys Thr Tyr Val Gln Ile Ile Ala |      |      |      |      |      |
| 1505  |      | 1510 |      | 1515 | 1520 |
| Lys Ser Leu Lys Asn Lys Ile Trp Val Asn Glu Phe Arg Tyr Gly Gly |      |      |      |      |      |
|   | 1525 |      | 1530 |      | 1535 |
| Phe Ser Leu Gly Val Ser Asn Thr Gln Ala Leu Pro Pro Ser Gln Glu |      |      |      |      |      |
|   | 1540 |      | 1545 |      | 1550 |
| Val Asn Asp Ala Thr Lys Gln Met Lys Lys His Leu Lys Leu Ala Lys |      |      |      |      |      |
|   | 1555 |      | 1560 |      | 1565 |
| Asp Ser Ser Ala Asp Arg Phe Leu Asn Ser Leu Gly Arg Phe Met Thr |      |      |      |      |      |
|   | 1570 |      | 1575 |      | 1580 |
| Gly Leu Asp Thr Arg Asn Asn Val Lys Val Trp Phe Asn Asn Lys Gly |      |      |      |      |      |
| 1585  |      | 1590 |      | 1595 | 1600 |
| Trp His Ala Ile Ser Ser Phe Leu Asn Val Ile Asn Asn Ala Ile Leu |      |      |      |      |      |
|   | 1605 |      | 1610 |      | 1615 |
| Arg Ala Asn Leu Gln Lys Gly Glu Asn Pro Ser His Tyr Gly Ile Thr |      |      |      |      |      |
|   | 1620 |      | 1625 |      | 1630 |
| Ala Phe Asn His Pro Leu Asn Leu Thr Lys Gln Gln Leu Ser Glu Val |      |      |      |      |      |
|   | 1635 |      | 1640 |      | 1645 |
| Ala Pro Met Thr Thr Ser Val Asp Val Leu Val Ser Ile Cys Val Ile |      |      |      |      |      |
|   | 1650 |      | 1655 |      | 1660 |
| Phe Ala Met Ser Phe Val Pro Ala Ser Phe Val Val Phe Leu Ile Gln |      |      |      |      |      |
| 1665  |      | 1670 |      | 1675 | 1680 |
| Glu Arg Val Ser Lys Ala Lys His Leu Gln Phe Ile Ser Gly Val Lys |      |      |      |      |      |
|   | 1685 |      | 1690 |      | 1695 |
| Pro Val Ile Tyr Trp Leu Ser Asn Phe Val Trp Asp Met Cys Asn Tyr |      |      |      |      |      |
|   | 1700 |      | 1705 |      | 1710 |
| Val Val Pro Ala Thr Leu Val Ile Ile Ile Phe Ile Cys Phe Gln Gln |      |      |      |      |      |
|   | 1715 |      | 1720 |      | 1725 |
| Lys Ser Tyr Val Ser Ser Thr Asn Leu Pro Val Leu Ala Leu Leu Leu |      |      |      |      |      |
|   | 1730 |      | 1735 |      | 1740 |
| Leu Leu Tyr Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe |      |      |      |      |      |
| 1745  |      | 1750 |      | 1755 | 1760 |
| Val Phe Lys Ile Pro Ser Thr Ala Tyr Val Val Leu Thr Ser Val Asn |      |      |      |      |      |
|   | 1765 |      | 1770 |      | 1775 |
| Leu Phe Ile Gly Ile Asn Gly Ser Val Ala Thr Phe Val Leu Glu Leu |      |      |      |      |      |
|   | 1780 |      | 1785 |      | 1790 |
| Phe Thr Asp Asn Lys Leu Asn Asn Ile Asn Asp Ile Leu Lys Ser Val |      |      |      |      |      |
|   | 1795 |      | 1800 |      | 1805 |
| Phe Leu Ile Phe Pro His Phe Cys Leu Gly Arg Gly Leu Ile Asp Met |      |      |      |      |      |
|   | 1810 |      | 1815 |      | 1820 |
| Val Lys Asn Gln Ala Met Ala Asp Ala Leu Glu Arg Phe Gly Glu Asn |      |      |      |      |      |
| 1825  |      | 1830 |      | 1835 | 1840 |
| Arg Phe Val Ser Pro Leu Ser Trp Asp Leu Val Gly Arg Asn Leu Phe |      |      |      |      |      |
|   | 1845 |      | 1850 |      | 1855 |
| Ala Met Ala Val Glu Gly Val Val Phe Phe Leu Ile Thr Val Leu Ile |      |      |      |      |      |
|   | 1860 |      | 1865 |      | 1870 |
| Gln Tyr Arg Phe Phe Ile Arg Pro Arg Pro Val Asn Ala Lys Leu Ser |      |      |      |      |      |

|   |      |      |
|---|------|------|
| 1875  | 1880 | 1885 |
| Pro Leu Asn Asp Glu Asp Glu Asp Val Arg Arg Glu Arg Gln Arg Ile |      |      |
| 1890  | 1895 | 1900 |
| Leu Asp Gly Gly Gly Gln Asn Asp Ile Leu Glu Ile Lys Glu Leu Thr |      |      |
| 1905  | 1910 | 1915 |
| Lys Ile Tyr Arg Arg Lys Arg Lys Pro Ala Val Asp Arg Ile Cys Val |      | 1920 |
|   | 1925 | 1930 |
| Gly Ile Pro Pro Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala |      | 1935 |
|   | 1940 | 1945 |
| Gly Lys Ser Ser Thr Phe Lys Met Leu Thr Gly Asp Thr Thr Val Thr |      | 1950 |
|   | 1955 | 1960 |
| Arg Gly Asp Ala Phe Leu Asn Arg Asn Ser Ile Leu Ser Asn Ile His |      | 1965 |
|   | 1970 | 1975 |
| Glu Val His Gln Asn Met Gly Tyr Cys Pro Gln Phe Asp Ala Ile Thr |      | 1980 |
| 1985  | 1990 | 1995 |
| Glu Leu Leu Thr Gly Arg Glu His Val Glu Phe Phe Ala Leu Leu Arg |      | 2000 |
|   | 2005 | 2010 |
| Gly Val Pro Glu Lys Glu Val Gly Lys Val Gly Glu Trp Ala Ile Arg |      | 2015 |
|   | 2020 | 2025 |
| Lys Leu Gly Leu Val Lys Tyr Gly Glu Lys Tyr Ala Gly Asn Tyr Ser |      | 2030 |
|   | 2035 | 2040 |
| Gly Gly Asn Lys Arg Lys Leu Ser Thr Ala Met Ala Leu Ile Gly Gly |      | 2045 |
|   | 2050 | 2055 |
| Pro Pro Val Val Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Lys |      | 2060 |
| 2065  | 2070 | 2075 |
| Ala Arg Arg Phe Leu Trp Asn Cys Ala Leu Ser Val Val Lys Glu Gly |      | 2080 |
|   | 2085 | 2090 |
| Arg Ser Val Val Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala Leu |      | 2095 |
|   | 2100 | 2105 |
| Cys Thr Arg Met Ala Ile Met Val Asn Gly Arg Phe Arg Cys Leu Gly |      | 2110 |
|   | 2115 | 2120 |
| Ser Val Gln His Leu Lys Asn Arg Phe Gly Asp Gly Tyr Thr Ile Val |      | 2125 |
|   | 2130 | 2135 |
| Val Arg Ile Ala Gly Ser Asn Pro Asp Leu Lys Pro Val Gln Asp Phe |      | 2140 |
| 2145  | 2150 | 2155 |
| Phe Gly Leu Ala Phe Pro Gly Ser Val Pro Lys Glu Lys His Arg Asn |      | 2160 |
|   | 2165 | 2170 |
| Met Leu Gln Tyr Gln Leu Pro Ser Ser Leu Ser Ser Leu Ala Arg Ile |      | 2175 |
|   | 2180 | 2185 |
| Phe Ser Ile Leu Ser Gln Ser Lys Lys Arg Leu His Ile Glu Asp Tyr |      | 2190 |
|   | 2195 | 2200 |
| Ser Val Ser Gln Thr Thr Leu Asp Gln Val Phe Val Asn Phe Ala Lys |      | 2205 |
|   | 2210 | 2215 |
| Asp Gln Ser Asp Asp Asp His Leu Lys Asp Leu Ser Leu His Lys Asn |      | 2220 |
| 2225  | 2230 | 2235 |
| Gln Thr Val Val Asp Val Ala Val Leu Thr Ser Phe Leu Gln Asp Glu |      | 2240 |
|   | 2245 | 2250 |
| Lys Val Lys Glu Ser Tyr Val                                     |      | 2255 |
|   | 2260 | 2263 |

&lt;210&gt; 3181

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3181

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Ala | Thr | Ser | Gln | Ala | Ala | Leu | Pro | Glu | Ala | Leu | Ser | Lys | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Glu | Thr | Pro | Arg | Pro | Ala | Thr | His | Pro | Ala | Arg | Ser | Gln | Asp | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Arg | Pro | Leu | Ser | Cys | Pro | Phe | Asp | Phe | Leu | Arg | Asp | Asn | Val | Glu | Trp |

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<210> 3182
<211> 428
<212> PRT
<213> Homo sapiens
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4881

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Gln | Leu | Gln | His | Leu | Lys | Ser | Lys | Ala | Leu | Arg | Glu | Arg | Trp | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Glu | Gly | Thr | Pro | Ser | Ser | Ala | Ser | Glu | Gly | Asp | Glu | Asp | Leu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Gln | Met | Gln | Asp | Asp | Glu | Gln | Lys | Thr | Arg | Leu | Leu | Glu | Asp | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ser | Arg | Leu | Glu | Lys | Gly | Ile | Glu | Val | Leu | Glu | Arg | Gly | Asp | Ser |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Pro | Ala | Ala | Ala | Lys | Glu | Asn | Ala | Ala | Ala | Pro | Ser | Pro | Val | Arg |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Ala | Pro | Ala | Pro | Ser | Pro | Ala | Lys | Glu | Glu | Arg | Lys | Thr | Glu | Val | Val |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Met | Asn | Ser | Gln | Gln | Thr | Pro | Val | Gly | Thr | Pro | Lys | Asp | Lys | Arg | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Asn | Thr | Pro | Leu | Arg | Thr | Val | Asp | Gly | Ser | Pro | Met | Met | Lys | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Met | Tyr | Ser | Val | Glu | Ile | Thr | Val | Glu | Lys | Asp | Lys | Val | Thr | Gly |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Thr | Arg | Val | Leu | Ser | Ser | Thr | Thr | Leu | Leu | Pro | Arg | Gln | Pro | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Leu | Gly | Ile | Lys | Val | Tyr | Glu | Asp | Glu | Thr | Lys | Val | Val | His | Ala |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Val | Asp | Gly | Thr | Ala | Glu | Asn | Gly | Ile | His | Pro | Leu | Ser | Ser | Ser | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Asp | Glu | Leu | Ile | His | Lys | Ala | Asp | Glu | Val | Thr | Leu | Ser | Glu | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Ser | Thr | Ala | Gly | Ala | Ala | Glu | Thr | Arg | Gly | Ala | Val | Glu | Gly | Ala |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ala | Arg | Thr | Thr | Pro | Ser | Arg | Arg | Glu | Ile | Thr | Gly | Val | Gln | Ala | Gln |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Pro | Gly | Glu | Ala | Thr | Ser | Gly | Pro | Pro | Gly | Ile | Gln | Pro | Gly | Gln | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Pro | Val | Thr | Met | Ile | Phe | Met | Gly | Tyr | Gln | Asn | Val | Glu | Asp | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Glu | Thr | Lys | Lys | Val | Leu | Gly | Leu | Gln | Asp | Thr | Ile | Thr | Ala | Glu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Leu | Val | Val | Ile | Glu | Asp | Ala | Ala | Glu | Pro | Lys | Glu | Pro | Ala | Pro | Pro |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Asn | Gly | Ser | Ala | Ala | Glu | Pro | Pro | Thr | Glu | Ala | Ala | Ser | Arg | Glu | Glu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Asn | Gln | Ala | Gly | Pro | Glu | Ala | Thr | Thr | Ser | Asp | Pro | Gln | Asp | Leu | Asp |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Met | Lys | Lys | His | Arg | Cys | Lys | Cys | Cys | Ser | Ile | Met |     |     |     |     |
|     |     |     | 420 |     |     |     |     | 425 |     |     | 428 |     |     |     |     |

&lt;210&gt; 3183

&lt;211&gt; 533

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3183

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ala | Pro | Thr | Gly | Gly | Ser | His | Ser | Glu | Ile | Gln | Lys | Gln | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Gly | Asp | Ser | Ser | Ser | Gln | Arg | Arg | Ala | Glu | Arg | Arg | Thr | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Arg | Ser | Ala | Pro | Arg | Pro | Arg | Trp | Gly | Arg | Ser | Ala | Arg | Ser | Pro |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Ala | His | Lys | Leu | Pro | Gly | Pro | Pro | Arg | Arg | Arg | Asp | Pro | Gly | Ala |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Trp | Ala | Arg | Leu | Glu | Ala | Ala | Ala | Ala | His | Arg | His | Ser | Arg | Gly | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Gly | Arg | Arg | Met | Arg | Gly | Ala | Ala | Ala | Thr | Ala | Gly | Leu | Trp | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Ala | Leu | Gly | Ser | Leu | Leu | Ala | Leu | Trp | Gly | Gly | Leu | Leu | Pro | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Thr | Glu | Leu | Pro | Ala | Ser | Arg | Pro | Pro | Glu | Asp | Arg | Leu | Pro | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Arg | Pro | Ala | Arg | Ser | Gly | Gly | Pro | Ala | Pro | Ala | Pro | Arg | Phe | Pro | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Pro | Pro | Leu | Ala | Trp | Asp | Ala | Arg | Gly | Gly | Ser | Leu | Lys | Thr | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Ala | Leu | Leu | Thr | Leu | Ala | Ala | Gly | Ala | Asp | Gly | Pro | Pro | Arg | Gln |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Arg | Ser | Glu | Pro | Arg | Trp | His | Val | Ser | Ala | Arg | Gln | Pro | Arg | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Glu | Ser | Ala | Ala | Val | His | Gly | Gly | Val | Phe | Trp | Ser | Arg | Gly | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Glu | Gln | Val | Pro | Pro | Gly | Phe | Ser | Glu | Ala | Gln | Ala | Ala | Ala | Trp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Glu | Ala | Ala | Arg | Gly | Ala | Arg | Met | Val | Ala | Leu | Glu | Arg | Gly | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Cys | Gly | Arg | Ser | Ser | Asn | Arg | Leu | Ala | Arg | Phe | Ala | Asp | Gly | Thr | Arg |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Cys | Val | Arg | Tyr | Gly | Ile | Asn | Pro | Glu | Gln | Ile | Gln | Gly | Glu | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Ser | Tyr | Tyr | Leu | Ala | Arg | Leu | Leu | Gly | Leu | Gln | Arg | His | Val | Pro |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Leu | Ala | Leu | Ala | Arg | Val | Glu | Ala | Arg | Gly | Ala | Gln | Trp | Ala | Gln |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Gln | Glu | Glu | Leu | Arg | Ala | Ala | His | Trp | Thr | Glu | Gly | Ser | Val | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ser | Leu | Thr | Arg | Trp | Leu | Pro | Asn | Leu | Thr | Asp | Val | Val | Val | Pro | Ala |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Trp | Arg | Ser | Glu | Asp | Gly | Arg | Leu | Arg | Pro | Leu | Arg | Asp | Ala | Gly |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Gly | Glu | Leu | Ala | Asn | Leu | Ser | Gln | Ala | Glu | Leu | Val | Asp | Leu | Val | Gln |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Trp | Thr | Asp | Leu | Ile | Leu | Phe | Asp | Tyr | Leu | Thr | Ala | Asn | Phe | Asp | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Val | Ser | Asn | Leu | Phe | Ser | Leu | Gln | Trp | Asp | Pro | Arg | Val | Met | Gln |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Ala | Thr | Ser | Asn | Leu | His | Arg | Gly | Pro | Gly | Gly | Ala | Leu | Val | Phe |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Leu | Asp | Asn | Glu | Ala | Gly | Leu | Val | His | Gly | Tyr | Arg | Val | Ala | Gly | Met |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Trp | Asp | Lys | Tyr | Asn | Glu | Pro | Leu | Leu | Gln | Ser | Val | Cys | Val | Phe | Arg |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Glu | Arg | Thr | Ala | Arg | Arg | Val | Leu | Glu | Leu | His | Arg | Gly | Gln | Asp | Ala |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ala | Ala | Arg | Leu | Leu | Arg | Leu | Tyr | Arg | Arg | His | Glu | Pro | Arg | Phe | Pro |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Glu | Leu | Ala | Ala | Leu | Ala | Asp | Pro | His | Ala | Gln | Leu | Leu | Gln | Arg | Arg |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Asp | Phe | Leu | Ala | Lys | His | Ile | Leu | His | Cys | Lys | Ala | Lys | Tyr | Gly |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Arg | Arg | Ser | Gly | Asp | Leu | Val | Ser | Pro | Gly | Gly | Lys | Glu | Arg | Asp | Leu |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Gly | Leu | Gly | Tyr | Gly |     |     |     |     |     |     |     |     |     |     |     |
|     | 530 |     |     | 533 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3184

&lt;211&gt; 334

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3184

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ser | Thr | His | Ala | Ser | Ala | Asp | Ala | Trp | Ala | Gln | Trp | Phe | Cys | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Ala | Leu | Val | Met | Gly | Ala | Pro | Val | Trp | Tyr | Leu | Val | Ala | Ala | Ala |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Leu | Leu | Val | Gly | Phe | Ile | Leu | Phe | Leu | Thr | Arg | Ser | Arg | Gly | Arg | Ala |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala | Ser | Ala | Gly | Gln | Glu | Pro | Leu | His | Asn | Glu | Glu | Leu | Ala | Gly | Ala |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gly | Arg | Val | Ala | Gln | Pro | Gly | Pro | Leu | Glu | Pro | Glu | Glu | Pro | Arg | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Gly | Arg | Pro | Arg | Arg | Arg | Arg | Asp | Leu | Gly | Ser | Arg | Leu | Gln | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gln | Arg | Arg | Ala | Gln | Arg | Val | Ala | Trp | Ala | Glu | Ala | Asp | Glu | Asn | Glu |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Glu | Glu | Ala | Val | Ile | Leu | Ala | Gln | Glu | Glu | Glu | Gly | Val | Glu | Lys | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ala | Glu | Thr | His | Leu | Ser | Gly | Lys | Ile | Gly | Ala | Lys | Lys | Leu | Arg | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Glu | Glu | Lys | Gln | Ala | Arg | Lys | Ala | Gln | Arg | Glu | Ala | Glu | Glu | Ala |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Glu | Arg | Glu | Glu | Arg | Lys | Arg | Leu | Glu | Ser | Gln | Arg | Glu | Ala | Glu | Trp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Lys | Lys | Glu | Glu | Glu | Arg | Leu | Arg | Leu | Glu | Glu | Glu | Gln | Lys | Glu | Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Glu | Glu | Arg | Lys | Ala | Arg | Glu | Glu | Gln | Ala | Gln | Arg | Glu | His | Glu | Glu |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Tyr | Leu | Lys | Leu | Lys | Glu | Ala | Phe | Val | Val | Glu | Glu | Glu | Gly | Val | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Glu | Thr | Met | Thr | Glu | Glu | Gln | Ser | Gln | Ser | Phe | Leu | Thr | Glu | Phe | Ile |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Asn | Tyr | Ile | Lys | Gln | Ser | Lys | Val | Val | Leu | Leu | Glu | Asp | Leu | Ala | Ser |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Val | Gly | Leu | Arg | Thr | Gln | Asp | Thr | Ile | Asn | Arg | Ile | Gln | Asp | Leu |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Leu | Ala | Glu | Gly | Thr | Ile | Thr | Gly | Val | Ile | Asp | Asp | Arg | Gly | Lys | Phe |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ile | Tyr | Ile | Thr | Pro | Glu | Glu | Leu | Ala | Ala | Val | Ala | Asn | Phe | Ile | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |
| Gln | Arg | Gly | Arg | Val | Ser | Ile | Ala | Glu | Leu | Ala | Gln | Ala | Ser | Asn | Ser |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Leu | Ile | Ala | Trp | Gly | Arg | Glu | Ser | Pro | Ala | Gln | Ala | Pro | Ala |     |     |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 334 |     |     |

&lt;210&gt; 3185

&lt;211&gt; 1397

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3185

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Leu | Leu | Ala | Gly | Lys | Phe | Ser | Ser | Thr | Leu | Tyr | Glu | Thr | Gly | Gly |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Asp | Met | Ser | Leu | Val | Asn | Phe | Glu | Pro | Ala | Ala | Arg | Arg | Ala | Ser |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Ile | Cys | Asp | Thr | Asp | Ser | His | Val | Ser | Ser | Ser | Thr | Ser | Val | Arg |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Phe | Tyr | Pro | His | Asp | Val | Leu | Ser | Leu | Pro | Gln | Ile | Arg | Leu | Asn | Arg |



|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Leu Leu Thr Ile Asp Thr Asp Leu Leu Glu Gln Gln Asp Ile Asp Leu |     |     |
| 65  | 70  | 75  |
| Ser Pro Asp Leu Ala Ala Thr Tyr Gly Pro Thr Glu Glu Ala Ala Gln |     |     |
| 85  | 90  | 95  |
| Lys Val Lys His Tyr Tyr Arg Phe Trp Ile Leu Pro Gln Leu Trp Ile |     |     |
| 100   | 105 | 110 |
| Gly Ile Asn Phe Asp Arg Leu Thr Leu Leu Ala Leu Phe Asp Arg Asn |     |     |
| 115   | 120 | 125 |
| Arg Glu Ile Leu Glu Asn Val Leu Ala Val Ile Leu Ala Ile Leu Val |     |     |
| 130   | 135 | 140 |
| Ala Phe Leu Gly Ser Ile Leu Leu Ile Gln Gly Phe Phe Arg Asp Ile |     |     |
| 145   | 150 | 155 |
| Trp Val Phe Gln Phe Cys Leu Val Ile Ala Ser Cys Gln Tyr Ser Leu |     |     |
| 165   | 170 | 175 |
| Leu Lys Ser Val Gln Pro Asp Ser Ser Ser Pro Arg His Gly His Asn |     |     |
| 180   | 185 | 190 |
| Arg Ile Ile Ala Tyr Ser Arg Pro Val Tyr Phe Cys Ile Cys Cys Gly |     |     |
| 195   | 200 | 205 |
| Leu Ile Trp Leu Leu Asp Tyr Gly Ser Arg Asn Leu Thr Ala Thr Lys |     |     |
| 210   | 215 | 220 |
| Phe Lys Leu Tyr Gly Ile Thr Phe Thr Asn Pro Leu Val Phe Ile Ser |     |     |
| 225   | 230 | 235 |
| Ala Arg Asp Leu Val Ile Val Phe Thr Leu Cys Phe Pro Ile Val Phe |     |     |
| 245   | 250 | 255 |
| Phe Ile Gly Leu Leu Pro Gln Val Asn Thr Phe Val Met Tyr Leu Cys |     |     |
| 260   | 265 | 270 |
| Glu Gln Leu Asp Ile His Ile Phe Gly Gly Asn Ala Thr Thr Ser Leu |     |     |
| 275   | 280 | 285 |
| Leu Ala Ala Leu Tyr Ser Phe Ile Cys Ser Ile Val Ala Val Ala Leu |     |     |
| 290   | 295 | 300 |
| Leu Tyr Gly Leu Cys Tyr Gly Ala Leu Lys Asp Ser Trp Asp Gly Gln |     |     |
| 305   | 310 | 315 |
| His Ile Pro Val Leu Phe Ser Ile Phe Cys Gly Leu Leu Val Ala Val |     |     |
| 325   | 330 | 335 |
| Ser Tyr His Leu Ser Arg Gln Ser Ser Asp Pro Ser Val Leu Phe Ser |     |     |
| 340   | 345 | 350 |
| Leu Val Gln Ser Lys Ile Phe Pro Lys Thr Glu Glu Lys Asn Pro Glu |     |     |
| 355   | 360 | 365 |
| Asp Pro Leu Ser Glu Val Lys Asp Pro Leu Pro Glu Lys Leu Arg Asn |     |     |
| 370   | 375 | 380 |
| Ser Val Ser Glu Arg Leu Gln Ser Asp Leu Val Val Cys Ile Val Ile |     |     |
| 385   | 390 | 395 |
| Gly Val Leu Tyr Phe Ala Ile His Val Ser Thr Val Phe Thr Val Leu |     |     |
| 405   | 410 | 415 |
| Gln Pro Ala Leu Lys Tyr Val Leu Tyr Thr Leu Val Gly Phe Val Gly |     |     |
| 420   | 425 | 430 |
| Phe Val Thr His Tyr Val Leu Pro Gln Val Arg Lys Gln Leu Pro Trp |     |     |
| 435   | 440 | 445 |
| His Cys Phe Ser His Pro Leu Leu Lys Thr Leu Glu Tyr Asn Gln Tyr |     |     |
| 450   | 455 | 460 |
| Glu Val Arg Asn Ala Ala Thr Met Met Trp Phe Glu Lys Leu His Val |     |     |
| 465   | 470 | 475 |
| Trp Leu Leu Phe Val Glu Lys Asn Ile Ile Tyr Pro Leu Ile Val Leu |     |     |
| 485   | 490 | 495 |
| Asn Glu Leu Ser Ser Ser Ala Glu Thr Ile Ala Ser Pro Lys Lys Leu |     |     |
| 500   | 505 | 510 |
| Asn Thr Glu Leu Gly Ala Leu Met Ile Thr Val Ala Gly Leu Lys Leu |     |     |
| 515   | 520 | 525 |
| Leu Arg Ser Ser Phe Ser Ser Pro Thr Tyr Gln Tyr Val Thr Val Ile |     |     |
| 530   | 535 | 540 |
| Phe Thr Val Leu Phe Phe Lys Phe Asp Tyr Glu Ala Phe Ser Glu Thr |     |     |
| 545   | 550 | 555 |
| Met Leu Leu Asp Leu Phe Phe Met Ser Ile Leu Phe Asn Lys Leu Trp |     |     |

|      |      |      |      |     |      |      |      |     |      |      |      |      |     |     |      |  |
|------|------|------|------|-----|------|------|------|-----|------|------|------|------|-----|-----|------|--|
|      |      |      |      | 565 |      |      |      |     | 570  |      |      |      | 575 |     |      |  |
| Glu  | Leu  | Leu  | Tyr  | Lys | Leu  | Gln  | Phe  | Val | Tyr  | Thr  | Tyr  | Ile  | Ala | Pro | Trp  |  |
|      |      |      | 580  |     |      |      |      |     | 585  |      |      |      | 590 |     |      |  |
| Gln  | Ile  | Thr  | Trp  | Gly | Ser  | Ala  | Phe  | His | Ala  | Phe  | Ala  | Gln  | Pro | Phe | Ala  |  |
|      |      | 595  |      |     |      |      | 600  |     |      |      |      | 605  |     |     |      |  |
| Val  | Pro  | His  | Ser  | Ala | Met  | Leu  | Phe  | Ile | Gln  | Ala  | Ala  | Val  | Ser | Ala | Phe  |  |
|      | 610  |      |      |     |      | 615  |      |     |      |      | 620  |      |     |     |      |  |
| Phe  | Ser  | Thr  | Pro  | Leu | Asn  | Pro  | Phe  | Leu | Gly  | Ser  | Ala  | Ile  | Phe | Ile | Thr  |  |
| 625  |      |      |      |     | 630  |      |      |     |      | 635  |      |      |     |     | 640  |  |
| Ser  | Tyr  | Val  | Arg  | Pro | Val  | Lys  | Phe  | Trp | Glu  | Arg  | Asp  | Tyr  | Asn | Thr | Lys  |  |
|      |      |      | 645  |     |      |      |      |     | 650  |      |      |      |     |     | 655  |  |
| Arg  | Val  | Asp  | His  | Ser | Asn  | Thr  | Arg  | Leu | Ala  | Ser  | Gln  | Leu  | Asp | Arg | Asn  |  |
|      |      | 660  |      |     |      |      | 665  |     |      |      |      |      | 670 |     |      |  |
| Pro  | Gly  | Thr  | Tyr  | Cys | Gln  | Gln  | Arg  | Glu | Val  | Glu  | Ala  | Ile  | Thr | Glu | Gly  |  |
|      | 675  |      |      |     |      | 680  |      |     |      |      |      | 685  |     |     |      |  |
| Val  | Glu  | Glu  | Asp  | Glu | Gly  | Phe  | Cys  | Cys | Cys  | Glu  | Pro  | Gly  | His | Ile | Pro  |  |
|      | 690  |      |      |     | 695  |      |      |     |      |      | 700  |      |     |     |      |  |
| His  | Met  | Leu  | Ser  | Phe | Asn  | Ala  | Ala  | Phe | Ser  | Gln  | Arg  | Trp  | Leu | Ala | Trp  |  |
| 705  |      |      |      |     | 710  |      |      |     |      | 715  |      |      |     |     | 720  |  |
| Glu  | Val  | Ile  | Val  | Thr | Lys  | Tyr  | Ile  | Leu | Glu  | Gly  | Tyr  | Ser  | Ile | Thr | Asp  |  |
|      |      |      | 725  |     |      |      |      |     | 730  |      |      |      |     |     | 735  |  |
| Asn  | Ser  | Ala  | Ala  | Ser | Met  | Leu  | Gln  | Val | Phe  | Asp  | Leu  | Arg  | Lys | Val | Leu  |  |
|      |      | 740  |      |     |      |      | 745  |     |      |      |      |      | 750 |     |      |  |
| Thr  | Thr  | Tyr  | Tyr  | Val | Lys  | Gly  | Ile  | Ile | Tyr  | Tyr  | Val  | Thr  | Thr | Ser | Ser  |  |
|      | 755  |      |      |     |      | 760  |      |     |      |      |      | 765  |     |     |      |  |
| Lys  | Leu  | Glu  | Glu  | Trp | Leu  | Ala  | Asn  | Glu | Thr  | Met  | Gln  | Glu  | Gly | Leu | Arg  |  |
|      | 770  |      |      |     | 775  |      |      |     |      |      | 780  |      |     |     |      |  |
| Leu  | Cys  | Ala  | Asp  | Arg | Asn  | Tyr  | Val  | Asp | Val  | Asp  | Pro  | Thr  | Phe | Asn | Pro  |  |
| 785  |      |      |      |     | 790  |      |      |     |      | 795  |      |      |     |     | 800  |  |
| Asn  | Ile  | Asp  | Glu  | Asp | Tyr  | Asp  | His  | Arg | Leu  | Ala  | Gly  | Ile  | Ser | Arg | Glu  |  |
|      |      |      | 805  |     |      |      |      |     | 810  |      |      |      |     |     | 815  |  |
| Ser  | Phe  | Cys  | Val  | Ile | Tyr  | Leu  | Asn  | Trp | Ile  | Glu  | Tyr  | Cys  | Ser | Ser | Arg  |  |
|      |      | 820  |      |     |      |      |      | 825 |      |      |      |      | 830 |     |      |  |
| Arg  | Ala  | Lys  | Pro  | Val | Asp  | Val  | Asp  | Lys | Asp  | Ser  | Ser  | Leu  | Val | Thr | Leu  |  |
|      | 835  |      |      |     |      |      | 840  |     |      |      |      | 845  |     |     |      |  |
| Cys  | Tyr  | Gly  | Leu  | Cys | Val  | Leu  | Gly  | Arg | Arg  | Ala  | Leu  | Gly  | Thr | Ala | Ser  |  |
|      | 850  |      |      |     |      | 855  |      |     |      |      | 860  |      |     |     |      |  |
| His  | His  | Met  | Ser  | Ser | Asn  | Leu  | Glu  | Ser | Phe  | Leu  | Tyr  | Gly  | Leu | His | Ala  |  |
| 865  |      |      |      |     | 870  |      |      |     |      | 875  |      |      |     |     | 880  |  |
| Leu  | Phe  | Lys  | Gly  | Asp | Phe  | Arg  | Ile  | Ser | Ser  | Ile  | Arg  | Asp  | Glu | Trp | Ile  |  |
|      |      |      | 885  |     |      |      |      |     | 890  |      |      |      |     |     | 895  |  |
| Phe  | Ala  | Asp  | Met  | Glu | Leu  | Leu  | Arg  | Lys | Val  | Val  | Val  | Pro  | Gly | Ile | Arg  |  |
|      |      | 900  |      |     |      |      |      | 905 |      |      |      |      | 910 |     |      |  |
| Met  | Ser  | Ile  | Lys  | Leu | His  | Gln  | Asp  | His | Phe  | Thr  | Ser  | Pro  | Asp | Glu | Tyr  |  |
|      |      | 915  |      |     |      |      | 920  |     |      |      |      |      | 925 |     |      |  |
| Asp  | Asp  | Pro  | Thr  | Val | Leu  | Tyr  | Glu  | Ala | Ile  | Val  | Ser  | His  | Glu | Lys | Asn  |  |
|      | 930  |      |      |     |      | 935  |      |     |      |      | 940  |      |     |     |      |  |
| Leu  | Val  | Ile  | Ala  | His | Glu  | Gly  | Asp  | Pro | Ala  | Trp  | Arg  | Ser  | Ala | Val | Leu  |  |
| 945  |      |      |      |     | 950  |      |      |     |      | 955  |      |      |     |     | 960  |  |
| Ala  | Asn  | Ser  | Pro  | Ser | Leu  | Leu  | Ala  | Leu | Arg  | His  | Val  | Met  | Asp | Asp | Gly  |  |
|      |      |      | 965  |     |      |      |      |     | 970  |      |      |      |     | 975 |      |  |
| Thr  | Asn  | Glu  | Tyr  | Lys | Ile  | Ile  | Met  | Leu | Asn  | Arg  | Arg  | Tyr  | Leu | Ser | Phe  |  |
|      |      | 980  |      |     |      |      |      | 985 |      |      |      |      | 990 |     |      |  |
| Arg  | Val  | Ile  | Lys  | Val | Asn  | Lys  | Glu  | Cys | Val  | Arg  | Gly  | Leu  | Trp | Ala | Gly  |  |
|      |      | 995  |      |     |      | 1000 |      |     |      |      |      | 1005 |     |     |      |  |
| Gln  | Gln  | Gln  | Glu  | Leu | Val  | Phe  | Leu  | Arg | Asn  | Arg  | Asn  | Pro  | Glu | Arg | Gly  |  |
|      | 1010 |      |      |     |      | 1015 |      |     |      |      | 1020 |      |     |     |      |  |
| Ser  | Ile  | Gln  | Asn  | Ala | Lys  | Gln  | Ala  | Leu | Arg  | Asn  | Met  | Ile  | Asn | Ser | Ser  |  |
| 1025 |      |      |      |     | 1030 |      |      |     |      | 1035 |      |      |     |     | 1040 |  |
| Cys  | Asp  | Gln  | Pro  | Ile | Gly  | Tyr  | Pro  | Ile | Phe  | Val  | Ser  | Pro  | Leu | Thr | Thr  |  |
|      |      |      | 1045 |     |      |      |      |     | 1050 |      |      |      |     |     | 1055 |  |
| Ser  | Tyr  | Ser  | Asp  | Ser | His  | Glu  | Gln  | Leu | Lys  | Asp  | Ile  | Leu  | Gly | Gly | Pro  |  |
|      |      | 1060 |      |     |      |      | 1065 |     |      |      |      | 1070 |     |     |      |  |
| Ile  | Ser  | Leu  | Gly  | Asn | Ile  | Arg  | Asn  | Phe | Ile  | Val  | Ser  | Thr  | Trp | His | Arg  |  |

1075 1080 1085  
 Leu Arg Lys Gly Cys Gly Ala Gly Cys Asn Ser Gly Gly Asn Ile Glu  
 1090 1095 1100  
 Asp Ser Asp Thr Gly Gly Gly Thr Ser Cys Thr Gly Asn Asn Ala Thr  
 1105 1110 1115 1120  
 Thr Ala Asn Asn Pro His Ser Asn Val Thr Gln Gly Ser Ile Gly Asn  
 1125 1130 1135  
 Pro Gly Gln Gly Ser Gly Thr Gly Leu His Pro Pro Val Thr Ser Tyr  
 1140 1145 1150  
 Pro Pro Thr Leu Gly Thr Ser His Ser Ser His Ser Val Gln Ser Gly  
 1155 1160 1165  
 Leu Val Arg Gln Ser Pro Ala Arg Ala Ser Val Ala Ser Gln Ser Ser  
 1170 1175 1180  
 Tyr Cys Tyr Ser Ser Arg His Ser Ser Leu Arg Met Ser Thr Thr Gly  
 1185 1190 1195 1200  
 Phe Val Pro Cys Arg Arg Ser Ser Thr Ser Gln Ile Ser Leu Arg Asn  
 1205 1210 1215  
 Leu Pro Ser Ser Ile Gln Ser Arg Leu Ser Met Val Asn Gln Met Glu  
 1220 1225 1230  
 Pro Ser Gly Gln Ser Gly Leu Ala Cys Val Gln His Gly Leu Pro Ser  
 1235 1240 1245  
 Ser Ser Ser Ser Ser Gln Ser Ile Pro Ala Cys Lys His His Thr Leu  
 1250 1255 1260  
 Val Gly Phe Leu Ala Thr Glu Gly Gly Gln Ser Ser Ala Thr Asp Ala  
 1265 1270 1275 1280  
 Gln Pro Gly Asn Thr Leu Ser Pro Ala Asn Asn Ser His Ser Arg Lys  
 1285 1290 1295  
 Ala Glu Val Ile Tyr Arg Val Gln Ile Val Asp Pro Ser Gln Ile Leu  
 1300 1305 1310  
 Glu Gly Ile Asn Leu Ser Lys Arg Lys Glu Leu Gln Trp Pro Asp Glu  
 1315 1320 1325  
 Gly Ile Arg Leu Lys Ala Gly Arg Asn Ser Trp Lys Asp Trp Ser Pro  
 1330 1335 1340  
 Gln Glu Gly Met Glu Gly His Val Ile His Arg Trp Val Pro Cys Ser  
 1345 1350 1355 1360  
 Arg Asp Pro Gly Thr Arg Ser His Ile Asp Lys Ala Val Leu Leu Val  
 1365 1370 1375  
 Gln Ile Asp Asp Lys Tyr Val Thr Val Ile Glu Thr Gly Val Leu Glu  
 1380 1385 1390  
 Leu Gly Ala Glu Val  
 1395 1397

<210> 3186  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

<400> 3186  
 Ser Leu Ser Ala Met Arg Phe Leu Ala Ala Thr Phe Leu Leu Leu Ala  
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 Leu Ser Thr Ala Ala Gln Ala Glu Pro Val Gln Phe Lys Asp Cys Gly  
 20 25 30  
 Ser Val Asp Gly Val Ile Lys Glu Val Asn Val Ser Pro Cys Pro Thr  
 35 40 45  
 Gln Pro Cys Gln Leu Ser Lys Gly Gln Ser Tyr Ser Val Asn Val Thr  
 50 55 60  
 Phe Thr Ser Asn Ile Gln Ser Lys Ser Ser Lys Ala Val Val His Gly  
 65 70 75 80  
 Ile Leu Met Gly Val Pro Val Pro Phe Pro Ile Pro Glu Pro Asp Gly  
 85 90 95  
 Cys Lys Ser Gly Ile Asn Cys Pro Ile Gln Lys Asp Lys Thr Tyr Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Tyr | Leu | Asn | Lys | Leu | Pro | Val | Lys | Ser | Glu | Tyr | Pro | Ser | Ile | Lys | Leu |  |  |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |  |  |
| Val | Val | Glu | Trp | Gln | Leu | Gln | Asp | Asp | Lys | Asn | Gln | Ser | Leu | Phe | Cys |  |  |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |  |  |
| Trp | Glu | Ile | Pro | Val | Gln | Ile | Val | Ser | His | Leu |     |     |     |     |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |  |  |

<210> 3187  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

<400> 3187

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ser | Leu | Ser | Ala | Met | Arg | Phe | Leu | Ala | Ala | Thr | Phe | Leu | Leu | Leu | Ala |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Leu | Ser | Thr | Ala | Ala | Gln | Ala | Glu | Pro | Val | Gln | Phe | Lys | Asp | Cys | Gly |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ser | Val | Asp | Gly | Val | Ile | Lys | Glu | Val | Asn | Val | Ser | Pro | Cys | Pro | Thr |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Gln | Pro | Cys | Gln | Leu | Ser | Lys | Gly | Gln | Ser | Tyr | Ser | Val | Asn | Val | Thr |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Phe | Thr | Ser | Asn | Ile | Gln | Ser | Lys | Ser | Ser | Lys | Ala | Val | Val | His | Gly |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Ile | Leu | Met | Gly | Val | Pro | Val | Pro | Phe | Pro | Ile | Pro | Glu | Pro | Asp | Gly |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Cys | Lys | Ser | Gly | Ile | Asn | Cys | Pro | Ile | Gln | Lys | Asp | Lys | Thr | Tyr | Ser |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Tyr | Leu | Asn | Lys | Leu | Pro | Val | Lys | Ser | Glu | Tyr | Pro | Ser | Ile | Lys | Leu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Val | Glu | Trp | Gln | Leu | Gln | Asp | Asp | Lys | Asn | Gln | Ser | Leu | Phe | Cys |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Trp | Glu | Ile | Pro | Val | Gln | Ile | Val | Ser | His | Leu |     |     |     |     |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |  |  |

<210> 3188  
 <211> 1160  
 <212> PRT  
 <213> Homo sapiens

<400> 3188

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Pro | Arg | Val | Arg | Thr | Lys | Leu | Ile | Leu | Leu | Val | Asn | Asp | Lys | Lys | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Tyr | Glu | Arg | Val | Gly | Gly | Gly | Pro | Lys | Arg | Leu | Gly | Arg | Asp | Val | Glu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Met | Glu | Glu | Met | Ile | Glu | Gln | Leu | Gln | Glu | Lys | Val | His | Glu | Leu | Glu |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Lys | Gln | Asn | Asp | Thr | Leu | Lys | Asn | Arg | Leu | Ile | Ser | Ala | Lys | Gln | Gln |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Leu | Gln | Thr | Gln | Gly | Tyr | Arg | Gln | Thr | Pro | Tyr | Asn | Asn | Val | Gln | Ser |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Arg | Ile | Asn | Thr | Gly | Arg | Arg | Lys | Ala | Asn | Glu | Asn | Ala | Gly | Leu | Gln |  |  |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |  |  |
| Glu | Cys | Pro | Arg | Lys | Gly | Ile | Lys | Phe | Gln | Asp | Ala | Asp | Val | Ala | Glu |  |  |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Thr | Pro | His | Pro | Met | Phe | Thr | Lys | Tyr | Gly | Asn | Ser | Leu | Leu | Glu | Glu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Arg | Gly | Glu | Ile | Arg | Asn | Leu | Glu | Asn | Val | Ile | Gln | Ser | Gln | Arg |  |  |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 130                     | 135                 | 140                 |
| Gly Gln Ile Glu Glu Leu | Glu His Leu Ala Glu | Ile Leu Lys Thr Gln |
| 145                     | 150                 | 155                 |
| Leu Arg Arg Lys Glu Asn | Glu Ile Glu Leu Ser | Leu Leu Gln Leu Arg |
| 165                     | 170                 | 175                 |
| Glu Gln Gln Ala Thr Asp | Gln Arg Ser Asn Ile | Arg Asp Asn Val Glu |
| 180                     | 185                 | 190                 |
| Met Ile Lys Leu His Lys | Gln Leu Val Glu Lys | Ser Asn Ala Leu Ser |
| 195                     | 200                 | 205                 |
| Ala Met Glu Gly Lys Phe | Ile Gln Leu Gln Glu | Lys Gln Arg Thr Leu |
| 210                     | 215                 | 220                 |
| Lys Ile Ser His Asp Ala | Leu Met Ala Asn Gly | Asp Glu Leu Asn Met |
| 225                     | 230                 | 235                 |
| Gln Leu Lys Glu Gln Arg | Leu Lys Cys Cys Ser | Leu Glu Lys Gln Leu |
| 245                     | 250                 | 255                 |
| His Ser Met Lys Phe Ser | Glu Arg Arg Ile Glu | Glu Leu Gln Asp Arg |
| 260                     | 265                 | 270                 |
| Ile Asn Asp Leu Glu Lys | Glu Arg Glu Leu Leu | Lys Glu Asn Tyr Asp |
| 275                     | 280                 | 285                 |
| Lys Leu Tyr Asp Ser Ala | Phe Ser Ala Ala His | Glu Glu Gln Trp Lys |
| 290                     | 295                 | 300                 |
| Leu Lys Glu Gln Gln Leu | Lys Val Gln Ile Ala | Gln Leu Glu Thr Ala |
| 305                     | 310                 | 315                 |
| Leu Lys Ser Asp Leu Thr | Asp Lys Thr Glu Ile | Leu Asp Arg Leu Lys |
| 325                     | 330                 | 335                 |
| Thr Glu Arg Asp Gln Asn | Glu Lys Leu Val Gln | Glu Asn Arg Glu Leu |
| 340                     | 345                 | 350                 |
| Gln Leu Gln Tyr Leu Glu | Gln Lys Gln Gln Leu | Asp Glu Leu Lys Lys |
| 355                     | 360                 | 365                 |
| Arg Ile Lys Leu Tyr Asn | Gln Glu Asn Asp Ile | Asn Ala Asp Glu Leu |
| 370                     | 375                 | 380                 |
| Ser Glu Ala Leu Leu Leu | Ile Lys Ala Gln Lys | Glu Gln Lys Asn Gly |
| 385                     | 390                 | 395                 |
| Asp Leu Ser Phe Leu Val | Lys Val Asp Ser Glu | Ile Asn Lys Asp Leu |
| 405                     | 410                 | 415                 |
| Glu Arg Ser Met Arg Glu | Leu Gln Ala Thr His | Ala Glu Thr Val Gln |
| 420                     | 425                 | 430                 |
| Glu Leu Glu Lys Thr Arg | Asn Met Leu Ile Met | Gln His Lys Ile Asn |
| 435                     | 440                 | 445                 |
| Lys Asp Tyr Gln Met Glu | Val Glu Ala Val Thr | Arg Lys Met Glu Asn |
| 450                     | 455                 | 460                 |
| Leu Gln Gln Asp Tyr Glu | Leu Lys Val Glu Gln | Tyr Val His Leu Leu |
| 465                     | 470                 | 475                 |
| Asp Ile Arg Ala Ala Arg | Ile His Lys Leu Glu | Ala Gln Leu Lys Asp |
| 485                     | 490                 | 495                 |
| Ile Ala Tyr Gly Thr Lys | Gln Tyr Lys Phe Lys | Pro Glu Ile Met Pro |
| 500                     | 505                 | 510                 |
| Asp Asp Ser Val Asp Glu | Phe Asp Glu Thr Ile | His Leu Glu Arg Gly |
| 515                     | 520                 | 525                 |
| Glu Asn Leu Phe Glu Ile | His Ile Asn Lys Val | Thr Phe Ser Ser Glu |
| 530                     | 535                 | 540                 |
| Val Leu Gln Ala Ser Gly | Asp Lys Glu Pro Val | Thr Phe Cys Thr Tyr |
| 545                     | 550                 | 555                 |
| Ala Phe Tyr Asp Phe Glu | Leu Gln Thr Thr Pro | Val Val Arg Gly Leu |
| 565                     | 570                 | 575                 |
| His Pro Glu Tyr Asn Phe | Thr Ser Gln Tyr Leu | Val His Val Asn Asp |
| 580                     | 585                 | 590                 |
| Leu Phe Leu Gln Tyr Ile | Gln Lys Asn Thr Ile | Thr Leu Glu Val His |
| 595                     | 600                 | 605                 |
| Gln Ala Tyr Ser Thr Glu | Tyr Glu Thr Ile Ala | Ala Cys Gln Leu Lys |
| 610                     | 615                 | 620                 |
| Phe His Glu Ile Leu Glu | Lys Ser Gly Arg Ile | Phe Cys Thr Ala Ser |
| 625                     | 630                 | 635                 |
| Leu Ile Gly Thr Lys Gly | Asp Ile Pro Asn Phe | Gly Thr Val Glu Tyr |

|      |      |      |      |      |      |      |      |     |      |      |      |      |      |      |      |  |  |
|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|--|--|
|      |      |      |      | 645  |      |      |      |     | 650  |      |      |      | 655  |      |      |  |  |
| Trp  | Phe  | Arg  | Leu  | Arg  | Val  | Pro  | Met  | Asp | Gln  | Ala  | Ile  | Arg  | Leu  | Tyr  | Arg  |  |  |
|      |      |      | 660  |      |      |      |      | 665 |      |      |      |      | 670  |      |      |  |  |
| Glu  | Arg  | Ala  | Lys  | Ala  | Leu  | Gly  | Tyr  | Ile | Thr  | Ser  | Asn  | Phe  | Lys  | Gly  | Pro  |  |  |
|      |      | 675  |      |      |      |      | 680  |     |      |      |      | 685  |      |      |      |  |  |
| Glu  | His  | Met  | Gln  | Ser  | Leu  | Ser  | Gln  | Gln | Ala  | Pro  | Lys  | Thr  | Ala  | Gln  | Leu  |  |  |
|      | 690  |      |      |      |      | 695  |      |     |      |      | 700  |      |      |      |      |  |  |
| Ser  | Ser  | Thr  | Asp  | Ser  | Thr  | Asp  | Gly  | Asn | Leu  | Asn  | Glu  | Leu  | His  | Ile  | Thr  |  |  |
| 705  |      |      |      |      | 710  |      |      |     |      | 715  |      |      |      |      | 720  |  |  |
| Ile  | Arg  | Cys  | Cys  | Asn  | His  | Leu  | Gln  | Ser | Arg  | Ala  | Ser  | His  | Leu  | Gln  | Pro  |  |  |
|      |      |      | 725  |      |      |      |      |     | 730  |      |      |      |      | 735  |      |  |  |
| His  | Pro  | Tyr  | Val  | Val  | Tyr  | Lys  | Phe  | Phe | Asp  | Phe  | Ala  | Asp  | His  | Asp  | Thr  |  |  |
|      |      | 740  |      |      |      |      |      | 745 |      |      |      |      | 750  |      |      |  |  |
| Ala  | Ile  | Ile  | Pro  | Ser  | Ser  | Asn  | Asp  | Pro | Gln  | Phe  | Asp  | Asp  | His  | Met  | Tyr  |  |  |
|      | 755  |      |      |      |      |      | 760  |     |      |      |      | 765  |      |      |      |  |  |
| Phe  | Pro  | Val  | Pro  | Met  | Asn  | Met  | Asp  | Leu | Asp  | Arg  | Tyr  | Leu  | Lys  | Ser  | Glu  |  |  |
|      | 770  |      |      |      |      | 775  |      |     |      |      | 780  |      |      |      |      |  |  |
| Ser  | Leu  | Ser  | Phe  | Tyr  | Val  | Phe  | Asp  | Asp | Ser  | Asp  | Thr  | Gln  | Glu  | Asn  | Ile  |  |  |
| 785  |      |      |      |      | 790  |      |      |     |      | 795  |      |      |      |      | 800  |  |  |
| Tyr  | Ile  | Gly  | Lys  | Val  | Asn  | Val  | Pro  | Leu | Ile  | Ser  | Leu  | Ala  | His  | Asp  | Arg  |  |  |
|      |      |      | 805  |      |      |      |      |     | 810  |      |      |      |      | 815  |      |  |  |
| Cys  | Ile  | Ser  | Gly  | Ile  | Phe  | Glu  | Leu  | Thr | Asp  | His  | Gln  | Lys  | His  | Pro  | Ala  |  |  |
|      |      | 820  |      |      |      |      |      | 825 |      |      |      |      | 830  |      |      |  |  |
| Gly  | Thr  | Ile  | His  | Val  | Ile  | Leu  | Lys  | Trp | Lys  | Phe  | Ala  | Tyr  | Leu  | Pro  | Pro  |  |  |
|      | 835  |      |      |      |      |      | 840  |     |      |      |      |      | 845  |      |      |  |  |
| Ser  | Gly  | Ser  | Ile  | Thr  | Thr  | Glu  | Asp  | Leu | Gly  | Asn  | Phe  | Ile  | Arg  | Ser  | Glu  |  |  |
|      | 850  |      |      |      |      | 855  |      |     |      | 860  |      |      |      |      |      |  |  |
| Glu  | Pro  | Glu  | Val  | Val  | Gln  | Arg  | Leu  | Pro | Pro  | Ala  | Ser  | Ser  | Val  | Ser  | Thr  |  |  |
| 865  |      |      |      |      | 870  |      |      |     |      | 875  |      |      |      |      | 880  |  |  |
| Leu  | Val  | Leu  | Ala  | Pro  | Arg  | Pro  | Lys  | Pro | Arg  | Gln  | Arg  | Leu  | Thr  | Pro  | Val  |  |  |
|      |      |      | 885  |      |      |      |      |     | 890  |      |      |      |      | 895  |      |  |  |
| Asp  | Lys  | Lys  | Val  | Ser  | Phe  | Val  | Asp  | Ile | Met  | Pro  | His  | Gln  | Ser  | Asp  | Val  |  |  |
|      |      | 900  |      |      |      |      |      | 905 |      |      |      |      | 910  |      |      |  |  |
| Ser  | Gln  | Glu  | Gly  | Ser  | Val  | Asp  | Glu  | Val | Lys  | Glu  | Asn  | Thr  | Glu  | Lys  | Met  |  |  |
|      | 915  |      |      |      |      |      | 920  |     |      |      |      | 925  |      |      |      |  |  |
| Gln  | Gln  | Gly  | Lys  | Asp  | Asp  | Val  | Ser  | Leu | Leu  | Ser  | Glu  | Gly  | Gln  | Leu  | Ala  |  |  |
|      | 930  |      |      |      |      | 935  |      |     |      |      | 940  |      |      |      |      |  |  |
| Glu  | Gln  | Ser  | Leu  | Ala  | Ser  | Ser  | Glu  | Asp | Glu  | Thr  | Glu  | Ile  | Thr  | Glu  | Asp  |  |  |
| 945  |      |      |      |      | 950  |      |      |     |      | 955  |      |      |      |      | 960  |  |  |
| Leu  | Glu  | Pro  | Glu  | Val  | Glu  | Glu  | Asp  | Met | Ser  | Ala  | Ser  | Asp  | Ser  | Asp  | Asp  |  |  |
|      |      |      | 965  |      |      |      |      | 970 |      |      |      |      | 975  |      |      |  |  |
| Cys  | Ile  | Ile  | Pro  | Gly  | Pro  | Ile  | Ser  | Lys | Asn  | Ile  | Lys  | Gln  | Pro  | Ser  | Glu  |  |  |
|      |      | 980  |      |      |      |      |      | 985 |      |      |      |      | 990  |      |      |  |  |
| Lys  | Ile  | Arg  | Ile  | Glu  | Ile  | Ile  | Ala  | Leu | Ser  | Leu  | Asn  | Asp  | Ser  | Gln  | Val  |  |  |
|      | 995  |      |      |      |      | 1000 |      |     |      |      | 1005 |      |      |      |      |  |  |
| Thr  | Met  | Asp  | Asp  | Thr  | Ile  | Gln  | Arg  | Leu | Phe  | Val  | Glu  | Cys  | Arg  | Phe  | Tyr  |  |  |
|      | 1010 |      |      |      | 1015 |      |      |     |      | 1020 |      |      |      |      |      |  |  |
| Ser  | Leu  | Pro  | Ala  | Glu  | Glu  | Thr  | Pro  | Val | Ser  | Leu  | Pro  | Lys  | Pro  | Lys  | Ser  |  |  |
| 1025 |      |      |      |      | 1030 |      |      |     |      | 1035 |      |      |      |      | 1040 |  |  |
| Gly  | Gln  | Trp  | Val  | Tyr  | Tyr  | Asn  | Tyr  | Ser | Asn  | Val  | Ile  | Tyr  | Val  | Asp  | Lys  |  |  |
|      |      |      | 1045 |      |      |      |      |     | 1050 |      |      |      |      | 1055 |      |  |  |
| Glu  | Asn  | Asn  | Lys  | Ala  | Lys  | Arg  | Asp  | Ile | Leu  | Lys  | Ala  | Ile  | Leu  | Gln  | Lys  |  |  |
|      | 1060 |      |      |      |      |      | 1065 |     |      |      |      | 1070 |      |      |      |  |  |
| Gln  | Glu  | Met  | Pro  | Asn  | Arg  | Ser  | Leu  | Arg | Phe  | Thr  | Val  | Val  | Ser  | Asp  | Pro  |  |  |
|      | 1075 |      |      |      |      | 1080 |      |     |      | 1085 |      |      |      |      |      |  |  |
| Pro  | Glu  | Asp  | Glu  | Gln  | Asp  | Leu  | Glu  | Cys | Glu  | Asp  | Ile  | Gly  | Val  | Ala  | His  |  |  |
|      | 1090 |      |      |      | 1095 |      |      |     |      | 1100 |      |      |      |      |      |  |  |
| Val  | Asp  | Leu  | Ala  | Asp  | Met  | Phe  | Gln  | Glu | Gly  | Arg  | Asp  | Leu  | Ile  | Glu  | Gln  |  |  |
| 1105 |      |      |      | 1110 |      |      |      |     | 1115 |      |      |      |      | 1120 |      |  |  |
| Asn  | Ile  | Asp  | Val  | Phe  | Asp  | Ala  | Arg  | Ala | Asp  | Gly  | Glu  | Gly  | Ile  | Gly  | Lys  |  |  |
|      |      | 1125 |      |      |      |      | 1130 |     |      |      |      |      | 1135 |      |      |  |  |
| Leu  | Arg  | Val  | Thr  | Val  | Glu  | Ala  | Leu  | His | Ala  | Leu  | Gln  | Ser  | Val  | Tyr  | Lys  |  |  |
|      |      | 1140 |      |      |      |      | 1145 |     |      |      |      |      | 1150 |      |      |  |  |
| Gln  | Tyr  | Arg  | Asp  | Asp  | Leu  | Glu  | Ala  |     |      |      |      |      |      |      |      |  |  |



1155

1160

<210> 3189  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 3189  
 Met Lys Gly Ser Gly Trp His Leu Arg Ser Gly Met Val Gly Thr Leu  
 1 5 10 15  
 Ile Thr Thr Ile Leu Pro His Trp Arg Arg Thr Ala His Val Gly Thr  
 20 25 30  
 Asn Ile Leu Thr Ala Val Ser Tyr Leu Lys Gly Leu Trp Met Glu Cys  
 35 40 45  
 Val Trp His Ser Thr Gly Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu  
 50 55 60  
 Leu Ala Leu Pro Gln Asp Leu Gln Ala Ala Arg Ala Leu Met Gly Ile  
 65 70 75 80  
 Ser Cys Leu Leu Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met  
 85 90 95  
 Lys Cys Thr Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala  
 100 105 110  
 Ile Leu Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Gly  
 115 120 125  
 Ala Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro  
 130 135 140  
 Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr Leu  
 145 150 155 160  
 Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu Leu Cys  
 165 170 175  
 Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln Ala Pro Pro  
 180 185 190  
 Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala Tyr Gln Pro Pro  
 195 200 205  
 Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val Thr Ser Ala Thr His  
 210 215 220  
 Ser Gly Tyr Arg Leu Asn Asp Tyr Val  
 225 230 233

<210> 3190  
 <211> 256  
 <212> PRT  
 <213> Homo sapiens

<400> 3190  
 Asp Arg Met Ala Trp Gln Gly Leu Val Leu Ala Ala Cys Leu Leu Met  
 1 5 10 15  
 Phe Pro Ser Thr Thr Ala Asp Cys Leu Ser Arg Cys Ser Leu Cys Ala  
 20 25 30  
 Val Lys Thr Gln Asp Gly Pro Lys Pro Ile Asn Pro Leu Ile Cys Ser  
 35 40 45  
 Leu Gln Cys Gln Ala Ala Leu Leu Pro Ser Glu Glu Trp Glu Arg Cys  
 50 55 60  
 Gln Ser Phe Leu Ser Phe Phe Thr Pro Ser Thr Leu Gly Leu Asn Asp  
 65 70 75 80  
 Lys Glu Asp Leu Gly Ser Lys Ser Val Gly Glu Gly Pro Tyr Ser Glu  
 85 90 95  
 Leu Ala Lys Leu Ser Gly Ser Phe Leu Lys Glu Leu Glu Lys Ser Lys

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<210> 3191
<211> 181
<212> PRT
<213> Homo sapiens
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<210> 3192
<211> 518
<212> PRT
<213> Homo sapiens
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&lt;400&gt; 3192

Lys Val Ser Ala Asp Gly Met Gln Ser Cys Glu Ser Ser Gly Asp Ser  
 1 5 10 15  
 Ala Asp Asp Pro Leu Ser Arg Gly Leu Arg Arg Arg Gly Gln Pro Arg  
 20 25 30  
 Val Val Val Ile Gly Ala Gly Leu Ala Gly Leu Ala Ala Ala Lys Ala  
 35 40 45  
 Leu Leu Glu Gln Gly Phe Thr Asp Val Thr Val Leu Glu Ala Ser Ser  
 50 55 60  
 His Ile Gly Gly Arg Val Gln Ser Val Lys Leu Gly His Ala Thr Phe  
 65 70 75 80  
 Glu Leu Gly Ala Thr Trp Ile His Gly Ser His Gly Asn Pro Ile Tyr  
 85 90 95  
 His Leu Thr Glu Ala Asn Gly Leu Leu Glu Glu Thr Thr Asp Gly Glu  
 100 105 110  
 Arg Ser Val Gly Arg Ile Ser Leu Tyr Ser Lys Asn Gly Val Ala Cys  
 115 120 125  
 Tyr Leu Thr Asn His Gly Arg Arg Ile Pro Lys Asp Val Val Glu Glu  
 130 135 140  
 Phe Ser Asp Leu Tyr Asn Glu Val Tyr Asn Leu Thr Gln Glu Phe Phe  
 145 150 155 160  
 Arg His Asp Lys Pro Val Asn Ala Glu Ser Gln Asn Ser Val Gly Val  
 165 170 175  
 Phe Thr Arg Glu Glu Val Arg Asn Arg Ile Arg Asn Asp Pro Asp Asp  
 180 185 190  
 Pro Glu Ala Thr Lys Arg Leu Lys Leu Ala Met Ile Gln Gln Tyr Leu  
 195 200 205  
 Lys Val Glu Ser Cys Glu Ser Ser Ser His Ser Met Asp Glu Val Ser  
 210 215 220  
 Leu Ser Ala Phe Gly Glu Trp Thr Glu Ile Pro Gly Ala His His Ile  
 225 230 235 240  
 Ile Pro Ser Gly Phe Met Arg Val Val Glu Leu Leu Ala Glu Gly Ile  
 245 250 255  
 Pro Ala His Val Ile Gln Leu Gly Lys Pro Val Arg Cys Ile His Trp  
 260 265 270  
 Asp Gln Ala Ser Ala Arg Pro Arg Gly Pro Glu Ile Glu Pro Arg Gly  
 275 280 285  
 Glu Gly Asp His Asn His Asp Thr Gly Glu Gly Gly Gln Gly Gly Glu  
 290 295 300  
 Glu Pro Arg Gly Gly Arg Trp Asp Glu Asp Glu Gln Trp Ser Val Val  
 305 310 315 320  
 Val Glu Cys Glu Asp Cys Glu Leu Ile Pro Ala Asp His Val Ile Val  
 325 330 335  
 Thr Val Ser Leu Gly Val Leu Lys Arg Gln Tyr Thr Ser Phe Phe Arg  
 340 345 350  
 Pro Gly Leu Pro Thr Glu Lys Val Ala Ala Ile His Arg Leu Gly Ile  
 355 360 365  
 Gly Thr Thr Asp Lys Ile Phe Leu Glu Phe Glu Glu Pro Phe Trp Gly  
 370 375 380  
 Pro Glu Cys Asn Ser Leu Gln Phe Val Trp Glu Asp Glu Ala Glu Ser  
 385 390 395 400  
 His Thr Leu Thr Tyr Pro Pro Glu Leu Trp Tyr Arg Lys Ile Cys Gly  
 405 410 415  
 Phe Asp Val Leu Tyr Pro Pro Glu Arg Tyr Gly His Val Leu Ser Gly  
 420 425 430  
 Trp Ile Cys Gly Glu Glu Ala Leu Val Met Glu Lys Cys Asp Asp Glu  
 435 440 445  
 Ala Val Ala Glu Ile Cys Thr Glu Met Leu Arg Gln Phe Thr Gly Asn  
 450 455 460  
 Pro Asn Ile Pro Lys Pro Arg Arg Ile Leu Arg Ser Ala Trp Gly Ser  
 465 470 475 480  
 Asn Pro Tyr Phe Arg Gly Ser Tyr Ser Tyr Thr Gln Val Gly Ser Ser  
 485 490 495  
 Gly Ala Asp Val Glu Lys Leu Ala Lys Pro Leu Pro Tyr Thr Glu Ser

500  
Ser Lys Thr Ala Thr Lys  
515 518

505

510

<210> 3193  
<211> 642  
<212> PRT  
<213> Homo sapiens

<400> 3193  
Gln Leu Gly Thr Arg Arg Cys Leu Arg Gly Asp Lys Val Thr Asn Ala  
1 5 10 15  
Met Gln Asp Phe Leu Val Thr Asn Leu Glu Pro Arg Phe Ile Glu Pro  
20 25 30  
Gln Thr Ala Asn Leu Ser Val Val Phe Lys Asp Ser Asn Ser Thr Thr  
35 40 45  
Pro Leu Ile Phe Val Leu Ser Pro Gly Thr Asp Pro Ala Ala Asp Leu  
50 55 60  
Tyr Lys Phe Ala Glu Glu Met Lys Phe Ser Lys Lys Leu Ser Ala Ile  
65 70 75 80  
Ser Leu Gly Gln Gly Gln Gly Pro Arg Ala Glu Ala Met Met Arg Ser  
85 90 95  
Ser Ile Glu Arg Gly Lys Trp Val Phe Phe Gln Asn Cys His Leu Ala  
100 105 110  
Pro Ser Trp Met Pro Ala Leu Glu Arg Leu Ile Glu His Ile Asn Pro  
115 120 125  
Asp Lys Val His Arg Asp Phe Arg Leu Trp Leu Thr Ser Leu Pro Ser  
130 135 140  
Asn Lys Phe Pro Val Ser Ile Leu Gln Asn Gly Ser Lys Met Thr Ile  
145 150 155 160  
Glu Pro Pro Arg Gly Val Arg Ala Asn Leu Leu Lys Ser Tyr Ser Ser  
165 170 175  
Leu Gly Glu Asp Phe Leu Asn Ser Cys His Lys Val Met Glu Phe Lys  
180 185 190  
Ser Leu Leu Leu Ser Leu Cys Leu Phe His Gly Asn Ala Leu Glu Arg  
195 200 205  
Arg Lys Phe Gly Pro Leu Gly Phe Asn Ile Pro Tyr Glu Phe Thr Asp  
210 215 220  
Gly Asp Leu Arg Ile Cys Ile Ser Gln Leu Lys Met Phe Leu Asp Glu  
225 230 235 240  
Tyr Asp Asp Ile Pro Tyr Lys Val Leu Lys Tyr Thr Ala Gly Glu Ile  
245 250 255  
Asn Tyr Gly Gly Arg Val Thr Asp Asp Trp Asp Arg Arg Cys Ile Met  
260 265 270  
Asn Ile Leu Glu Asp Phe Tyr Asn Pro Asp Val Leu Ser Pro Glu His  
275 280 285  
Ser Tyr Ser Ala Ser Gly Ile Tyr His Gln Ile Pro Pro Thr Tyr Asp  
290 295 300  
Leu His Gly Tyr Leu Ser Tyr Ile Lys Ser Leu Pro Leu Asn Asp Met  
305 310 315 320  
Pro Glu Ile Phe Gly Leu His Asp Asn Ala Asn Ile Thr Phe Ala Gln  
325 330 335  
Asn Glu Thr Phe Ala Leu Leu Gly Thr Ile Ile Gln Leu Gln Pro Lys  
340 345 350  
Ser Ser Ser Ala Gly Ser Gln Gly Arg Glu Glu Ile Val Glu Asp Val  
355 360 365  
Thr Gln Asn Ile Leu Leu Lys Val Pro Glu Pro Ile Asn Leu Gln Trp  
370 375 380  
Val Met Ala Lys Tyr Pro Val Leu Tyr Glu Glu Ser Met Asn Thr Val  
385 390 395 400  
Leu Val Gln Glu Val Ile Arg Tyr Asn Arg Leu Leu Gln Val Ile Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 415 |     |     |  |
| Gln | Thr | Leu | Gln | Asp | Leu | Leu | Lys | Ala | Leu | Lys | Gly | Leu | Val | Val | Met |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Ser | Ser | Gln | Leu | Glu | Leu | Met | Ala | Ala | Ser | Leu | Tyr | Asn | Asn | Thr | Val |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Pro | Glu | Leu | Trp | Ser | Ala | Lys | Ala | Tyr | Pro | Ser | Leu | Lys | Pro | Leu | Ser |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Ser | Trp | Val | Met | Asp | Leu | Leu | Gln | Arg | Leu | Asp | Phe | Leu | Gln | Ala | Trp |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Ile | Gln | Asp | Gly | Ile | Pro | Ala | Val | Phe | Trp | Ile | Ser | Gly | Phe | Phe | Phe |  |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     | 495 |     |     |  |
| Pro | Gln | Ala | Phe | Leu | Thr | Gly | Thr | Leu | Gln | Asn | Phe | Ala | Arg | Lys | Phe |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     |     |     |  |
| Val | Ile | Ser | Ile | Asp | Thr | Ile | Ser | Phe | Asp | Phe | Lys | Val | Met | Phe | Glu |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Ala | Pro | Ser | Glu | Leu | Thr | Gln | Arg | Pro | Gln | Val | Gly | Cys | Tyr | Ile | His |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Gly | Leu | Phe | Leu | Glu | Gly | Ala | Arg | Trp | Asp | Pro | Glu | Ala | Phe | Gln | Leu |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |
| Ala | Glu | Ser | Gln | Pro | Lys | Glu | Leu | Tyr | Thr | Glu | Met | Ala | Val | Ile | Trp |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 |     |     |  |
| Leu | Leu | Pro | Thr | Pro | Asn | Arg | Lys | Ala | Gln | Asp | Gln | Asp | Phe | Tyr | Leu |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Cys | Pro | Ile | Tyr | Lys | Thr | Leu | Thr | Arg | Ala | Gly | Thr | Leu | Ser | Thr | Thr |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |
| Gly | His | Ser | Thr | Asn | Tyr | Val | Ile | Ala | Val | Glu | Ile | Pro | Thr | His | Gln |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Pro | Gln | Arg | His | Trp | Ile | Lys | Arg | Gly | Val | Ala | Leu | Ile | Cys | Ala | Leu |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Asp | Tyr |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|     | 642 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 3194  
 <211> 341  
 <212> PRT  
 <213> Homo sapiens

<400> 3194

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Asp | Gly | Trp | Thr | Pro | Val | His | Ala | Ala | Val | Asp | Thr | Gly | Asn | Val | Asp |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ser | Leu | Lys | Leu | Leu | Met | Tyr | His | Arg | Ile | Pro | Ala | His | Gly | Asn | Ser |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Phe | Asn | Glu | Glu | Glu | Ser | Glu | Ser | Ser | Val | Phe | Asp | Leu | Asp | Gly | Gly |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Glu | Glu | Ser | Pro | Glu | Gly | Ile | Ser | Lys | Pro | Val | Val | Pro | Ala | Asp | Leu |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ile | Asn | His | Ala | Asn | Arg | Glu | Gly | Trp | Thr | Ala | Ala | His | Ile | Ala | Ala |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ser | Lys | Gly | Phe | Lys | Asn | Cys | Leu | Glu | Ile | Leu | Cys | Arg | His | Gly | Gly |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |  |
| Leu | Glu | Pro | Glu | Arg | Arg | Asp | Lys | Cys | Asn | Arg | Thr | Val | His | Asp | Val |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |
| Ala | Thr | Asp | Asp | Cys | Lys | His | Leu | Leu | Glu | Asn | Leu | Asn | Ala | Leu | Lys |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Ile | Pro | Leu | Arg | Ile | Ser | Val | Gly | Glu | Ile | Glu | Pro | Ser | Asn | Tyr | Gly |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Ser | Asp | Asp | Leu | Glu | Cys | Glu | Asn | Thr | Ile | Cys | Ala | Leu | Asn | Ile | Arg |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Lys | Gln | Thr | Ser | Trp | Asp | Asp | Phe | Ser | Lys | Ala | Val | Ser | Gln | Ala | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Thr | Asn | His | Phe | Gln | Ala | Ile | Ser | Ser | Asp | Gly | Trp | Trp | Ser | Leu | Glu |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Asp | Val | Thr | Cys | Asn | Asn | Thr | Thr | Asp | Ser | Asn | Ile | Gly | Leu | Ser | Ala |
|     |     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Arg | Ser | Ile | Arg | Ser | Ile | Thr | Leu | Gly | Asn | Val | Pro | Trp | Ser | Val | Gly |
|     |     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |
| Gln | Ser | Phe | Ala | Gln | Ser | Pro | Trp | Asp | Phe | Met | Arg | Lys | Asn | Lys | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | His | Ile | Thr | Val | Leu | Leu | Ser | Gly | Pro | Gln | Glu | Gly | Cys | Leu | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Val | Thr | Tyr | Ala | Ser | Met | Ile | Pro | Leu | Gln | Met | Met | Gln | Asn | Tyr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Arg | Leu | Val | Glu | Gln | Tyr | His | Asn | Val | Ile | Phe | His | Gly | Pro | Glu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Ser | Leu | Gln | Asp | Tyr | Ile | Val | His | Gln | Leu | Ala | Leu | Cys | Leu | Lys |
| 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| His | Arg | Gln | Met | Gly | Trp | Gln | Asp | Ser | Pro | Val | Glu | Ile | Val | Glu | Glu |
| 305 |     |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |
| Leu | Glu | Val | Gly | Cys | Trp | Phe | Phe | Pro | Arg | Glu | Gln | Leu | Leu | Arg | Thr |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Cys | Ser | Leu | Val | Ala |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 340 | 341 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3195

&lt;211&gt; 603

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3195

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Ser | Ala | Gln | Val | Ser | Val | Thr | Phe | Glu | Asp | Val | Ala | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Phe | Thr | Gln | Glu | Glu | Trp | Gly | Gln | Leu | Asp | Ala | Ala | Gln | Arg | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Tyr | Gln | Glu | Val | Met | Leu | Glu | Thr | Cys | Gly | Leu | Leu | Met | Ser | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Cys | Pro | Leu | Phe | Lys | Pro | Glu | Leu | Ile | Tyr | Gln | Leu | Asp | His | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gln | Glu | Leu | Trp | Met | Ala | Thr | Lys | Asp | Leu | Ser | Gln | Ser | Ser | Tyr | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Asp | Asn | Thr | Lys | Pro | Lys | Thr | Thr | Glu | Pro | Thr | Phe | Ser | His | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Leu | Pro | Glu | Glu | Val | Leu | Leu | Gln | Glu | Gln | Leu | Thr | Gln | Gly | Ala |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Lys | Asn | Ser | Gln | Leu | Gly | Gln | Ser | Lys | Asp | Gln | Asp | Gly | Pro | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Glu | Met | Gln | Glu | Val | His | Leu | Lys | Ile | Gly | Ile | Gly | Pro | Gln | Arg | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Leu | Leu | Glu | Lys | Met | Ser | Ser | Glu | Arg | Asp | Gly | Leu | Gly | Ser | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asp | Gly | Val | Cys | Thr | Lys | Ile | Thr | Gln | Lys | Gln | Val | Ser | Thr | Glu | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Leu | Tyr | Glu | Cys | Asp | Ser | His | Gly | Pro | Val | Thr | Asp | Ala | Leu | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Glu | Glu | Lys | Asn | Ser | Tyr | Lys | Cys | Glu | Glu | Cys | Gly | Lys | Val | Phe |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Lys | Asn | Ala | Leu | Leu | Val | Gln | His | Glu | Arg | Ile | His | Thr | Gln | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Pro | Tyr | Glu | Cys | Thr | Glu | Cys | Gly | Lys | Thr | Phe | Ser | Lys | Ser | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Leu | Leu | Gln | His | Leu | Ile | Ile | His | Thr | Gly | Glu | Lys | Pro | Tyr | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Cys | Met | Glu | Cys | Gly | Lys | Ala | Phe | Asn | Arg | Arg | Ser | His | Leu | Thr | Arg |



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<210> 3196
<211> 378
<212> PRT
<213> Homo sapiens
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|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 3196 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Val        | Gly | Phe | Trp | Glu | Arg | Pro | Leu | Arg | Ser | Ser | Arg | Trp | Phe | Arg | Arg |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser        | Leu | Arg | Arg | Trp | Glu | Met | Leu | Ala | Arg | Ala | Ala | Arg | Gly | Thr | Gly |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala        | Leu | Leu | Leu | Arg | Gly | Ser | Leu | Leu | Ala | Ser | Gly | Arg | Ala | Pro | Arg |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg        | Ala | Ser | Ser | Gly | Leu | Pro | Arg | Asn | Thr | Val | Val | Leu | Phe | Val | Pro |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln        | Gln | Glu | Ala | Trp | Val | Val | Glu | Arg | Met | Gly | Arg | Phe | His | Arg | Ile |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu        | Glu | Pro | Gly | Leu | Asn | Ile | Leu | Ile | Pro | Val | Leu | Asp | Arg | Ile | Arg |

```
<210> 3197
<211> 1189
<212> PRT
<213> Homo sapiens
```

|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 3197 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Leu        | Trp | Glu | Cys | Ala | Ala | Ala | Ala | Ala | Gly | Gln | Arg | Asp | Gly | Gly | Val |  |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Thr        | Leu | Phe | Leu | Lys | Gly | Arg | Val | Leu | Gly | Arg | Arg | Cys | Ala | Ala | Ser |  |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Leu        | Phe | Ala | Arg | Glu | Val | Cys | Val | Ser | Thr | Ser | Ser | Ser | Arg | Pro | Ala |  |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Cys        | Phe | Leu | His | Cys | Ala | Arg | Ala | Arg | Gly | Glu | Gln | Met | His | Gln | Met |  |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Ala        | Ser | Gly | Val | Gly | Ser | Met | Lys | Arg | Ser | Pro | Arg | Lys | Met | Trp | Arg |  |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Pro        | Gly | Glu | Lys | Lys | Glu | Pro | Gln | Gly | Val | Val | Tyr | Glu | Asp | Val | Arg |  |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Asp        | Asp | Thr | Glu | Asp | Phe | Lys | Glu | Pro | Leu | Lys | Val | Val | Phe | Glu | Gly |  |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ser        | Ala | Tyr | Gly | Leu | Gln | Asn | Phe | Asn | Lys | Gln | Lys | Lys | Leu | Lys | Thr |  |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Cys        | Asp | Asp | Met | Asp | Thr | Phe | Phe | Leu | His | Tyr | Ala | Ala | Ala | Glu | Gly |  |

|                     |                     |                         |
|---------------------|---------------------|-------------------------|
| 130                 | 135                 | 140                     |
| Gln Ile Glu Leu Met | Glu Lys Ile Thr Arg | Asp Ser Ser Leu Glu Val |
| 145                 | 150                 | 155                     |
| Leu His Glu Met Asp | Asp Tyr Gly Asn Thr | Pro Leu His Cys Ala Val |
| 165                 | 170                 | 175                     |
| Glu Lys Asn Gln Ile | Glu Ser Val Lys Phe | Leu Leu Ser Arg Gly Ala |
| 180                 | 185                 | 190                     |
| Asn Pro Asn Leu Arg | Asn Phe Asn Met Met | Ala Pro Leu His Ile Ala |
| 195                 | 200                 | 205                     |
| Val Gln Gly Met Asn | Asn Glu Val Met Lys | Val Leu Leu Glu His Arg |
| 210                 | 215                 | 220                     |
| Thr Ile Asp Val Asn | Leu Glu Gly Glu Asn | Gly Asn Thr Ala Val Ile |
| 225                 | 230                 | 235                     |
| Ile Ala Cys Thr Thr | Asn Asn Ser Glu Ala | Leu Gln Ile Leu Leu Asn |
| 245                 | 250                 | 255                     |
| Lys Gly Ala Lys Pro | Cys Lys Ser Asn Lys | Trp Gly Cys Phe Pro Ile |
| 260                 | 265                 | 270                     |
| His Gln Ala Ala Phe | Ser Gly Ser Lys Glu | Cys Met Glu Ile Ile Leu |
| 275                 | 280                 | 285                     |
| Arg Phe Gly Glu Glu | His Gly Tyr Ser Arg | Gln Leu His Ile Asn Phe |
| 290                 | 295                 | 300                     |
| Met Asn Asn Gly Lys | Ala Thr Pro Leu His | Leu Ala Val Gln Asn Gly |
| 305                 | 310                 | 315                     |
| Asp Leu Glu Met Ile | Lys Met Cys Leu Asp | Asn Gly Ala Gln Ile Asp |
| 325                 | 330                 | 335                     |
| Pro Val Glu Lys Gly | Arg Cys Thr Ala Ile | His Phe Ala Ala Thr Gln |
| 340                 | 345                 | 350                     |
| Gly Ala Thr Glu Ile | Val Lys Leu Met Ile | Ser Ser Tyr Ser Gly Ser |
| 355                 | 360                 | 365                     |
| Val Asp Ile Val Asn | Thr Thr Asp Gly Cys | His Glu Thr Met Leu His |
| 370                 | 375                 | 380                     |
| Arg Ala Ser Leu Phe | Asp His His Glu Leu | Ala Asp Tyr Leu Ile Ser |
| 385                 | 390                 | 395                     |
| Val Gly Ala Asp Ile | Asn Lys Ile Asp Ser | Glu Gly Arg Ser Pro Leu |
| 405                 | 410                 | 415                     |
| Ile Leu Ala Thr Ala | Ser Ala Ser Trp Asn | Ile Val Asn Leu Leu Leu |
| 420                 | 425                 | 430                     |
| Ser Lys Gly Ala Gln | Val Asp Ile Lys Asp | Asn Phe Gly Arg Asn Phe |
| 435                 | 440                 | 445                     |
| Leu His Leu Thr Val | Gln Gln Pro Tyr Gly | Leu Lys Asn Leu Arg Pro |
| 450                 | 455                 | 460                     |
| Glu Phe Met Gln Met | Gln Gln Ile Lys Glu | Leu Val Met Asp Glu Asp |
| 465                 | 470                 | 475                     |
| Asn Asp Gly Cys Thr | Pro Leu His Tyr Ala | Cys Arg Gln Gly Gly Pro |
| 485                 | 490                 | 495                     |
| Gly Ser Val Asn Asn | Leu Leu Gly Phe Asn | Val Ser Ile His Ser Lys |
| 500                 | 505                 | 510                     |
| Ser Lys Asp Lys Lys | Ser Pro Leu His Phe | Ala Ala Ser Tyr Gly Arg |
| 515                 | 520                 | 525                     |
| Ile Asn Thr Cys Gln | Arg Leu Leu Gln Asp | Ile Ser Asp Thr Arg Leu |
| 530                 | 535                 | 540                     |
| Leu Asn Glu Gly Asp | Leu His Gly Met Thr | Pro Leu His Leu Ala Ala |
| 545                 | 550                 | 555                     |
| Lys Asn Gly His Asp | Lys Val Val Gln Leu | Leu Leu Lys Lys Gly Ala |
| 565                 | 570                 | 575                     |
| Leu Phe Leu Ser Asp | His Asn Gly Trp Thr | Ala Leu His His Ala Ser |
| 580                 | 585                 | 590                     |
| Met Gly Gly Tyr Thr | Gln Thr Met Lys Val | Ile Leu Asp Thr Asn Leu |
| 595                 | 600                 | 605                     |
| Lys Cys Thr Asp Arg | Leu Asp Glu Asp Gly | Asn Thr Ala Leu His Phe |
| 610                 | 615                 | 620                     |
| Ala Ala Arg Glu Gly | His Ala Lys Ala Val | Ala Leu Leu Leu Ser His |
| 625                 | 630                 | 635                     |
| Asn Ala Asp Ile Val | Leu Asn Lys Gln Gln | Ala Ser Phe Leu His Leu |

4900

1155                      1160                      1165  
 Arg Asn Ser Arg Trp Asn Thr Val Leu Arg Ala Val Lys Ala Lys Thr  
 1170                      1175                      1180  
 His His Leu Glu Pro  
 1185                      1189

<210> 3198  
 <211> 708  
 <212> PRT  
 <213> Homo sapiens

<400> 3198  
 Lys Glu Lys Ser Leu His His Val Asp Gln Arg Pro Pro Leu Trp His  
 1                      5                      10                      15  
 Pro Gly Arg Pro Gly Thr Ser Gln Ser Ala Ala Met Asn Ala Ser Ser  
                     20                      25                      30  
 Glu Gly Glu Ser Phe Ala Gly Ser Val Gln Ile Pro Gly Gly Thr Thr  
                     35                      40                      45  
 Val Leu Val Glu Leu Thr Pro Asp Ile His Ile Cys Gly Ile Cys Lys  
                     50                      55                      60  
 Gln Gln Phe Asn Asn Leu Asp Ala Phe Val Ala His Lys Gln Ser Gly  
 65                      70                      75                      80  
 Cys Gln Leu Thr Gly Thr Ser Ala Ala Ala Pro Ser Thr Val Gln Phe  
                     85                      90                      95  
 Val Ser Glu Glu Thr Val Pro Ala Thr Gln Thr Gln Thr Thr Thr Arg  
                     100                      105                      110  
 Thr Ile Thr Ser Glu Thr Gln Thr Ile Thr Val Ser Ala Pro Glu Phe  
                     115                      120                      125  
 Val Phe Glu His Gly Tyr Gln Thr Tyr Leu Pro Thr Glu Ser Asn Glu  
 130                      135                      140  
 Asn Gln Thr Ala Thr Val Ile Ser Leu Pro Ala Lys Ser Arg Thr Lys  
 145                      150                      155                      160  
 Lys Pro Thr Thr Pro Pro Ala Gln Lys Arg Leu Asn Cys Cys Tyr Pro  
                     165                      170                      175  
 Gly Cys Gln Phe Lys Thr Ala Tyr Gly Met Lys Asp Met Glu Arg His  
                     180                      185                      190  
 Leu Lys Ile His Thr Gly Asp Lys Pro His Lys Cys Glu Val Cys Gly  
                     195                      200                      205  
 Lys Cys Phe Ser Arg Lys Asp Lys Leu Lys Thr His Met Arg Cys His  
                     210                      215                      220  
 Thr Gly Val Lys Pro Tyr Lys Cys Lys Thr Cys Asp Tyr Ala Ala Ala  
 225                      230                      235                      240  
 Asp Ser Ser Ser Leu Asn Lys His Leu Arg Ile His Ser Asp Glu Arg  
                     245                      250                      255  
 Pro Phe Lys Cys Gln Ile Cys Pro Tyr Ala Ser Arg Asn Ser Ser Gln  
                     260                      265                      270  
 Leu Thr Val His Leu Arg Ser His Thr Gly Asp Ala Pro Phe Gln Cys  
                     275                      280                      285  
 Trp Leu Cys Ser Ala Lys Phe Lys Ile Ser Ser Asp Leu Lys Arg His  
                     290                      295                      300  
 Met Arg Val His Ser Gly Glu Lys Pro Phe Lys Cys Glu Phe Cys Asn  
 305                      310                      315                      320  
 Val Arg Cys Thr Met Lys Gly Asn Leu Lys Ser His Ile Arg Ile Lys  
                     325                      330                      335  
 His Ser Gly Asn Asn Phe Lys Cys Pro His Cys Ala Phe Leu Gly Asp  
                     340                      345                      350  
 Ser Lys Ala Thr Leu Arg Lys His Ser Arg Val His Gln Ser Glu His  
                     355                      360                      365  
 Arg Glu Lys Cys Ser Glu Cys Ser Tyr Ser Cys Ser Ser Lys Ala Ala  
                     370                      375                      380  
 Leu Arg Ile His Glu Arg Ile His Cys Thr Val Arg Pro Phe Lys Cys

|                         |   |                         |     |     |  |     |
|-------------------------|---|-------------------------|-----|-----|--|-----|
| 385                     |   | 390                     |     | 395 |  | 400 |
| Asn Tyr Cys Ser Phe     | Asp Ser Lys Gln Pro                         | Ser Asn Leu Ser Lys His |     |     |  |     |
|                         | 405   | 410                     | 415 |     |  |     |
| Met Lys Lys Phe His     | Gly Asp Met Val Lys Thr Glu Ala Leu Glu Arg |                         |     |     |  |     |
|                         | 420   | 425                     | 430 |     |  |     |
| Lys Asp Thr Gly Arg Gln | Ser Ser Arg Gln Val Ala Lys Leu Asp Ala     |                         |     |     |  |     |
|                         | 435   | 440                     | 445 |     |  |     |
| Lys Lys Ser Phe His Cys | Asp Ile Cys Asp Ala Ser Phe Met Arg Glu     |                         |     |     |  |     |
|                         | 450   | 455                     | 460 |     |  |     |
| Asp Ser Leu Arg Ser His | Lys Arg Gln His Ser Glu Tyr Asn Glu Ser     |                         |     |     |  |     |
|                         | 465   | 470                     | 475 |     |  |     |
| Lys Asn Ser Asp Val Thr | Val Leu Gln Phe Gln Ile Asp Pro Ser Lys     |                         |     |     |  |     |
|                         | 485   | 490                     | 495 |     |  |     |
| Gln Pro Ala Thr Pro Leu | Thr Val Gly His Leu Gln Val Pro Leu Gln     |                         |     |     |  |     |
|                         | 500   | 505                     | 510 |     |  |     |
| Pro Ser Gln Val Pro Gln | Phe Ser Glu Gly Arg Val Lys Ile Ile Val     |                         |     |     |  |     |
|                         | 515   | 520                     | 525 |     |  |     |
| Gly His Gln Val Pro Gln | Ala Asn Thr Ile Val Gln Ala Ala Ala Ala     |                         |     |     |  |     |
|                         | 530   | 535                     | 540 |     |  |     |
| Ala Val Asn Ile Val Pro | Pro Ala Leu Val Ala Gln Asn Pro Glu Glu     |                         |     |     |  |     |
|                         | 545   | 550                     | 555 |     |  |     |
| Leu Pro Gly Asn Ser Arg | Leu Gln Ile Leu Arg Gln Val Ser Leu Ile     |                         |     |     |  |     |
|                         | 565   | 570                     | 575 |     |  |     |
| Ala Pro Pro Gln Ser Ser | Arg Cys Pro Ser Glu Ala Gly Ala Met Thr     |                         |     |     |  |     |
|                         | 580   | 585                     | 590 |     |  |     |
| Gln Pro Ala Val Leu Leu | Thr Thr His Glu Gln Thr Asp Gly Ala Thr     |                         |     |     |  |     |
|                         | 595   | 600                     | 605 |     |  |     |
| Leu His Gln Thr Leu Ile | Pro Thr Ala Ser Gly Gly Pro Gln Glu Gly     |                         |     |     |  |     |
|                         | 610   | 615                     | 620 |     |  |     |
| Ser Gly Asn Gln Thr Phe | Ile Thr Ser Ser Gly Ile Thr Cys Thr Asp     |                         |     |     |  |     |
|                         | 625   | 630                     | 635 |     |  |     |
| Phe Glu Gly Leu Asn Ala | Leu Ile Gln Glu Gly Thr Ala Glu Val Thr     |                         |     |     |  |     |
|                         | 645   | 650                     | 655 |     |  |     |
| Val Val Ser Asp Gly Gly | Gln Asn Ile Ala Val Ala Thr Thr Ala Pro     |                         |     |     |  |     |
|                         | 660   | 665                     | 670 |     |  |     |
| Pro Val Phe Ser Ser Ser | Ser Gln Gln Glu Leu Pro Lys Gln Thr Tyr     |                         |     |     |  |     |
|                         | 675   | 680                     | 685 |     |  |     |
| Ser Ile Ile Gln Gly Ala | Ala His Pro Ala Leu Leu Cys Pro Ala Asp     |                         |     |     |  |     |
|                         | 690   | 695                     | 700 |     |  |     |
| Ser Ile Pro Asp         |   |                         |     |     |  |     |
| 705                     | 708   |                         |     |     |  |     |

&lt;210&gt; 3199

&lt;211&gt; 745

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3199

|                         |   |
|-------------------------|---|
| Gln Ser Phe His Ser Met | Glu Gly Asp Pro Ser Gly Leu Pro Leu Leu |
| 1                       | 5 10 15                                 |
| Ala Arg Gly Ala Ser Cys | Tyr Ser Leu Ile Cys Pro Cys Pro Arg Pro |
|                         | 20 25 30                                |
| Ala Asp Trp Ser Ile Leu | Gln Gly Thr Asp Trp Ser Ile Leu Gln Ser |
|                         | 35 40 45                                |
| Ala Asp Trp Cys Ile Tyr | Asn Pro Leu Ala Arg His Arg Ala Leu Thr |
|                         | 50 55 60                                |
| Gly Val Phe Leu Gln Ser | Ala Asp Trp Cys Thr Tyr Asn Pro Leu Ala |
|                         | 65 70 75 80                             |
| Arg Gln Lys Ser Ser Pro | Ser Pro His Ser Thr Gln Glu Val Gln Leu |
|                         | 85 90 95                                |
| Ala Ser Pro Leu Thr Arg | Arg Pro Asn Lys Lys Asp Ser Ala Glu Arg |



4903

|   |     |     |
|---|-----|-----|
| 610   | 615 | 620 |
| Ala Val Pro Glu Ile Leu Phe Asn Pro Ser Asp Ile Gly Ile Gln Glu |     |     |
| 625   | 630 | 635 |
| Met Gly Ile Pro Glu Ala Ile Val Tyr Ser Ile Gln Asn Leu Pro Glu |     | 640 |
|   | 645 | 650 |
| Glu Met Gln Pro His Phe Phe Lys Asn Ile Val Leu Thr Gly Gly Asn |     | 655 |
|   | 660 | 665 |
| Ser Leu Phe Pro Gly Phe Arg Asp Arg Val Tyr Ser Glu Val Arg Cys |     | 670 |
|   | 675 | 680 |
| Leu Thr Pro Thr Asp Tyr Asp Val Ser Val Val Leu Pro Glu Asn Pro |     | 685 |
|   | 690 | 695 |
| Ile Thr Tyr Ala Trp Glu Gly Gly Lys Leu Ile Ser Glu Asn Asp Asp |     | 700 |
| 705   | 710 | 715 |
| Phe Glu Asp Met Val Val Thr Arg Glu Asp Tyr Glu Glu Asn Gly His |     | 720 |
|   | 725 | 730 |
| Ser Val Cys Glu Glu Lys Phe Asp Ile                             |     | 735 |
|   | 740 | 745 |

<210> 3200  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 3200

|   |     |
|---|-----|
| Ala Val Gln Arg Ile Arg His Glu Met Asn Ile Phe Arg Leu Thr Gly |     |
| 1   | 5   |
| Asp Leu Ser His Leu Ala Ala Ile Val Ile Leu Leu Leu Lys Ile Trp | 10  |
|   | 15  |
|   | 20  |
| Lys Thr Arg Ser Cys Ala Gly Ile Ser Gly Lys Ser Gln Leu Leu Phe | 25  |
|   | 30  |
|   | 35  |
| Ala Leu Val Phe Thr Thr Arg Tyr Leu Asp Leu Phe Thr Ser Phe Ile | 40  |
|   | 45  |
|   | 50  |
| Ser Leu Tyr Asn Thr Ser Met Lys Val Trp Tyr Ala Ile His Arg Asn | 55  |
| 65  | 60  |
| Val Phe His Leu Gln Cys Thr Gly Leu Trp Thr Leu Asn Leu Cys Gln | 65  |
|   | 70  |
|   | 75  |
|   | 80  |
|   | 85  |
| Leu Cys Ile Phe Asn   | 90  |
|   | 95  |
|   | 100 |
|   | 101 |

<210> 3201  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 3201

|   |    |
|---|----|
| Ile Arg His Glu Gly Arg Gly Gln Arg Gly Lys Met Glu Leu Val Gln |    |
| 1   | 5  |
| Val Leu Lys Arg Gly Leu Gln Gln Ile Thr Gly His Gly Gly Leu Arg | 10 |
|   | 15 |
|   | 20 |
| Gly Tyr Leu Arg Val Phe Phe Arg Thr Asn Asp Ala Lys Val Gly Thr | 25 |
|   | 30 |
|   | 35 |
| Leu Val Gly Glu Asp Lys Tyr Gly Asn Lys Tyr Tyr Glu Asp Asn Lys | 40 |
|   | 45 |
|   | 50 |
| Gln Phe Phe Gly Arg His Arg Trp Val Val Tyr Thr Thr Glu Met Asn | 55 |
| 65  | 60 |
| Gly Lys Asn Thr Phe Trp Asp Val Asp Gly Ser Met Val Pro Pro Glu | 65 |
|   | 70 |
|   | 75 |
|   | 80 |
|   | 85 |
| Trp His Arg Trp Leu His Ser Met Thr Asp Asp Pro Pro Thr Thr Lys | 90 |
|   | 95 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Pro | Leu | Thr | Ala | Arg | Lys | Phe | Ile | Trp | Thr | Asn | His | Lys | Phe | Asn | Val |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Thr | Gly | Thr | Pro | Glu | Gln | Tyr | Val | Pro | Tyr | Ser | Thr | Thr | Arg | Lys | Lys |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Ile | Gln | Glu | Trp | Ile | Pro | Pro | Ser | Thr | Pro | Tyr | Lys |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 | 156 |     |     |     |     |

<210> 3202  
 <211> 231  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Asn | Ser | Ser | Gln | Arg | Ile | Met | Ala | Thr | His | Ala | Leu | Glu | Ile | Ala | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Phe | Leu | Gly | Gly | Val | Gly | Met | Val | Gly | Thr | Val | Ala | Val | Thr | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Pro | Gln | Trp | Arg | Val | Ser | Ala | Phe | Ile | Glu | Asn | Asn | Ile | Val | Val |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Glu | Asn | Phe | Trp | Glu | Gly | Leu | Trp | Met | Asn | Cys | Val | Arg | Gln | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Ile | Arg | Met | Gln | Cys | Lys | Ile | Tyr | Asp | Ser | Leu | Leu | Ala | Leu | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Asp | Leu | Gln | Ala | Ala | Arg | Gly | Leu | Met | Cys | Ala | Ala | Ser | Val | Met |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser | Phe | Leu | Ala | Phe | Met | Met | Ala | Ile | Leu | Gly | Met | Lys | Cys | Thr | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Thr | Gly | Asp | Asn | Glu | Lys | Val | Lys | Ala | His | Ile | Leu | Leu | Thr | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Ile | Ile | Phe | Ile | Ile | Thr | Gly | Met | Val | Val | Leu | Ile | Pro | Val | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Trp | Val | Ala | Asn | Ala | Ile | Ile | Arg | Asp | Phe | Tyr | Asn | Ser | Ile | Val | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Val | Ala | Gln | Lys | Arg | Glu | Leu | Gly | Glu | Ala | Leu | Tyr | Leu | Gly | Trp | Thr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Thr | Ala | Leu | Val | Leu | Ile | Val | Gly | Gly | Ala | Leu | Phe | Cys | Cys | Val | Phe |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Cys | Cys | Asn | Glu | Lys | Ser | Ser | Ser | Tyr | Arg | Tyr | Ser | Ile | Pro | Ser | His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Thr | Thr | Gln | Lys | Ser | Tyr | His | Thr | Gly | Lys | Lys | Ser | Pro | Ser | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Tyr | Ser | Arg | Ser | Gln | Tyr | Val |     |     |     |     |     |     |     |     |     |
| 225 |     |     |     |     | 230 | 231 |     |     |     |     |     |     |     |     |     |

<210> 3203  
 <211> 157  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Lys | Tyr | Arg | Tyr | Arg | Arg | Pro | Tyr | Pro | Val | Met | Arg | Lys | Ile | Cys | Gln |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Gly | Pro | Ala | Gly | Leu | Ala | Phe | Ile | Leu | Asn | Ile | Ser | Pro | Val | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Arg | Val | Ala | Leu | Cys | His | Leu | Ala | Gly | Cys | Gln | Glu | Gln | Ala | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Tyr | His | Thr | Leu | Gln | Ile | Leu | Phe | Phe | Leu | Val | Ser | Ala | Tyr | Phe |

|                     |                         |                         |     |    |  |
|---------------------|-------------------------|-------------------------|-----|----|--|
| 50                  |                         | 55                      |     | 60 |  |
| Phe Ser Cys Pro Val | Pro Glu Lys Tyr Phe     | Pro Gly Ser Cys Asp Ile |     |    |  |
| 65                  | 70                      | 75                      | 80  |    |  |
| Val Gly His Gly His | Gln Ile Phe His Ala Phe | Leu Ser Ile Cys Thr     |     |    |  |
|                     | 85                      | 90                      | 95  |    |  |
| Leu Ser Gln Leu Glu | Ala Ile Leu Leu Asp Tyr | Gln Gly Arg Gln Glu     |     |    |  |
|                     | 100                     | 105                     | 110 |    |  |
| Ile Phe Leu Gln Arg | His Gly Pro Leu Ser Val | His Met Ala Cys Leu     |     |    |  |
|                     | 115                     | 120                     | 125 |    |  |
| Ser Phe Phe Phe Leu | Ala Ala Cys Ser Ala Ala | Thr Ala Ala Leu Leu     |     |    |  |
|                     | 130                     | 135                     | 140 |    |  |
| Arg His Lys Val Lys | Ala Arg Leu Thr Lys Lys | Asp Ser                 |     |    |  |
| 145                 | 150                     | 155                     | 157 |    |  |

&lt;210&gt; 3204

&lt;211&gt; 380

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3204

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| Pro Glu Ser Ala | Pro Leu Pro Ala | Phe Ile Ser Ser | Arg Ile Leu Pro |
| 1               | 5               | 10              | 15              |
| Ala Ala Trp Arg | Asn Trp Cys Ser | Tyr Val Val Thr | Arg Thr Ile Ser |
|                 | 20              | 25              | 30              |
| Cys His Val Gln | Asn Gly Thr Tyr | Leu Gln Arg Val | Leu Gln Asn Cys |
|                 | 35              | 40              | 45              |
| Pro Trp Pro Met | Ser Cys Pro Gly | Ser Ser Tyr Arg | Thr Val Val Arg |
|                 | 50              | 55              | 60              |
| Pro Thr Tyr Lys | Val Met Tyr Lys | Ile Val Thr Ala | Arg Glu Trp Arg |
|                 | 65              | 70              | 75              |
| Cys Cys Pro Gly | His Ser Arg Val | Ser Cys Glu Glu | Val Ala Gly Ser |
|                 | 85              | 90              | 95              |
| Ser Ala Ser Leu | Glu Pro Met Trp | Ser Gly Ser Thr | Met Arg Arg Met |
|                 | 100             | 105             | 110             |
| Ala Leu Arg Pro | Thr Ala Phe Ser | Gly Cys Leu Asn | Cys Ser Lys Val |
|                 | 115             | 120             | 125             |
| Ser Glu Leu Thr | Glu Arg Leu Lys | Val Leu Glu Ala | Lys Met Thr Met |
|                 | 130             | 135             | 140             |
| Leu Thr Val Ile | Glu Gln Pro Val | Pro Pro Thr Pro | Ala Thr Pro Glu |
|                 | 145             | 150             | 155             |
| Asp Pro Ala Pro | Leu Trp Gly Pro | Pro Pro Ala Gln | Gly Ser Pro Gly |
|                 | 165             | 170             | 175             |
| Asp Gly Gly Leu | Gln Asp Gln Val | Gly Ala Trp Gly | Leu Pro Gly Pro |
|                 | 180             | 185             | 190             |
| Thr Gly Pro Lys | Gly Asp Ala Gly | Ser Arg Gly Pro | Met Gly Met Arg |
|                 | 195             | 200             | 205             |
| Gly Pro Pro Gly | Asp Pro Leu Leu | Ser Asn Thr Phe | Thr Glu Thr Asn |
|                 | 210             | 215             | 220             |
| Asn His Trp Pro | Gln Gly Pro Thr | Gly Pro Pro Gly | Pro Pro Gly Pro |
|                 | 225             | 230             | 235             |
| Met Gly Pro Pro | Gly Pro Pro Gly | Pro Thr Gly Val | Pro Gly Ser Pro |
|                 | 245             | 250             | 255             |
| Gly His Ile Gly | Pro Pro Gly Pro | Thr Gly Pro Lys | Gly Ile Ser Gly |
|                 | 260             | 265             | 270             |
| His Pro Gly Glu | Lys Gly Glu Arg | Gly Leu Arg Gly | Glu Pro Gly Pro |
|                 | 275             | 280             | 285             |
| Gln Gly Ser Ala | Gly Gln Arg Gly | Glu Pro Gly Pro | Lys Gly Asp Pro |
|                 | 290             | 295             | 300             |
| Gly Glu Lys Ser | His Trp Gly Glu | Gly Leu His Gln | Leu Arg Glu Ala |
|                 | 305             | 310             | 315             |
| Leu Lys Ile Leu | Ala Glu Arg Val | Leu Ile Leu Glu | Thr Met Ile Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |     |     |  |  |
| Leu | Tyr | Glu | Pro | Glu | Leu | Gly | Ser | Gly | Ala | Gly | Pro | Ala | Gly | Thr | Gly |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Thr | Pro | Ser | Leu | Leu | Arg | Gly | Lys | Arg | Gly | Gly | His | Ala | Thr | Asn | Tyr |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Arg | Ile | Val | Ala | Pro | Arg | Ser | Arg | Asp | Glu | Arg | Gly |     |     |     |     |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |

<210> 3205  
 <211> 386  
 <212> PRT  
 <213> Homo sapiens

<400> 3205

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Arg | Thr | Ser | Thr | Gln | Lys | Trp | Gln | Ser | Val | Phe | Asn | Asp | Ser | Gln | Glu |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| His | Leu | Glu | Arg | Phe | Tyr | Cys | Asn | Pro | Glu | Asn | Asp | Arg | Met | Arg | Met |  |  |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Lys | Tyr | Gly | Gly | Gln | Glu | Phe | Trp | Ala | Asp | Leu | Asn | Ala | Met | Asn | Val |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Tyr | Glu | Thr | Thr | Glu | Phe | Asp | Gln | Leu | Arg | Arg | Leu | Ser | Thr | Pro | Pro |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Ser | Asn | Val | Asn | Ser | Ile | Tyr | His | Thr | Val | Trp | Lys | Phe | Phe | Cys |  |  |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Arg | Asp | His | Phe | Gly | Trp | Arg | Glu | Tyr | Pro | Glu | Ser | Val | Ile | Arg | Leu |  |  |
|     |     |     |     | 85  |     |     | 90  |     |     |     |     |     |     | 95  |     |  |  |
| Ile | Glu | Glu | Ala | Asn | Ser | Arg | Gly | Leu | Lys | Glu | Val | Arg | Phe | Met | Met |  |  |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Trp | Asn | Asn | His | Tyr | Ile | Leu | His | Asn | Ser | Phe | Phe | Arg | Arg | Glu | Ile |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Arg | Arg | Pro | Leu | Phe | Arg | Ser | Cys | Phe | Ile | Leu | Leu | Pro | Tyr | Leu |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gln | Thr | Leu | Gly | Gly | Val | Pro | Thr | Gln | Ala | Pro | Pro | Pro | Leu | Glu | Ala |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Thr | Ser | Ser | Ser | Gln | Ile | Ile | Cys | Pro | Asp | Gly | Val | Thr | Ser | Ala | Asn |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Phe | Tyr | Pro | Glu | Thr | Trp | Val | Tyr | Met | His | Pro | Ser | Gln | Asp | Phe | Ile |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Gln | Val | Pro | Val | Ser | Ala | Glu | Asp | Lys | Ser | Tyr | Arg | Ile | Ile | Tyr | Asn |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Leu | Phe | His | Lys | Thr | Val | Pro | Glu | Phe | Lys | Tyr | Arg | Ile | Leu | Gln | Ile |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu | Arg | Val | Gln | Asn | Gln | Phe | Leu | Trp | Glu | Lys | Tyr | Lys | Arg | Lys | Lys |  |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Glu | Tyr | Met | Asn | Arg | Lys | Met | Phe | Gly | Arg | Asp | Arg | Ile | Ile | Asn | Glu |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Arg | His | Leu | Phe | His | Gly | Thr | Ser | Gln | Asp | Val | Val | Asp | Gly | Ile | Cys |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Lys | His | Asn | Phe | Asp | Pro | Arg | Val | Cys | Gly | Lys | His | Ala | Thr | Met | Phe |  |  |
|     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Gly | Gln | Gly | Ser | Tyr | Phe | Ala | Lys | Lys | Ala | Ser | Tyr | Ser | His | Asn | Phe |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ser | Lys | Lys | Ser | Ser | Lys | Gly | Val | His | Phe | Met | Phe | Leu | Ala | Lys | Val |  |  |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Leu | Thr | Gly | Arg | Tyr | Thr | Met | Gly | Ser | His | Gly | Met | Arg | Arg | Pro | Pro |  |  |
|     |     |     | 325 |     |     |     | 330 |     |     |     |     |     |     | 335 |     |  |  |
| Pro | Val | Asn | Pro | Gly | Ser | Val | Thr | Ser | Asp | Leu | Tyr | Asp | Ser | Cys | Val |  |  |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |  |  |
| Asp | Asn | Phe | Phe | Glu | Pro | Gln | Ile | Phe | Val | Ile | Phe | Asn | Asp | Asp | Gln |  |  |
|     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |  |  |
| Ser | Tyr | Pro | Tyr | Phe | Val | Ile | Gln | Tyr | Glu | Glu | Val | Ser | Asn | Thr | Val |  |  |

370  
Ser Ile  
385 386

375

380

<210> 3206  
<211> 1400  
<212> PRT  
<213> Homo sapiens

<400> 3206  
Cys Leu Val Asp Ser Lys Leu Trp Lys Gly Ala Arg Ser Val Tyr His  
1 5 10 15  
Gln Leu Phe Met Ser Ser Leu Leu Met Asp Leu Lys Tyr Lys Lys Leu  
20 25 30  
Phe Ala Val Arg Phe Ala Lys Asn Tyr Glu Arg Leu Gln Ser Asp Tyr  
35 40 45  
Val Thr Asp Asp His Asp Arg Glu Phe Ser Val Ala Asp Leu Ser Val  
50 55 60  
Gln Ile Phe Thr Val Pro Ser Leu Ala Arg Met Leu Ile Thr Glu Glu  
65 70 75 80  
Asn Leu Met Ser Ile Ile Ile Lys Thr Phe Met Asp His Leu Arg His  
85 90 95  
Arg Asp Ala Gln Gly Arg Phe Gln Phe Glu Arg Tyr Thr Ala Leu Gln  
100 105 110  
Ala Phe Lys Phe Arg Arg Val Gln Ser Leu Ile Leu Asp Leu Lys Tyr  
115 120 125  
Val Leu Ile Ser Lys Pro Thr Glu Trp Ser Asp Glu Leu Arg Gln Lys  
130 135 140  
Phe Leu Glu Gly Phe Asp Ala Phe Leu Glu Leu Leu Lys Cys Met Gln  
145 150 155 160  
Gly Met Asp Pro Ile Thr Arg Gln Val Gly Gln His Ile Glu Met Glu  
165 170 175  
Pro Glu Trp Glu Ala Ala Phe Thr Leu Gln Met Lys Leu Thr His Val  
180 185 190  
Ile Ser Met Met Gln Asp Trp Cys Ala Ser Asp Glu Lys Val Leu Ile  
195 200 205  
Glu Ala Tyr Lys Lys Cys Leu Ala Val Leu Met Gln Cys His Gly Gly  
210 215 220  
Tyr Thr Asp Gly Glu Gln Pro Ile Thr Leu Ser Ile Cys Gly His Ser  
225 230 235 240  
Val Glu Thr Ile Arg Tyr Cys Val Ser Gln Glu Lys Val Ser Ile His  
245 250 255  
Leu Pro Val Ser Arg Leu Leu Ala Gly Leu His Val Leu Leu Ser Lys  
260 265 270  
Ser Glu Val Ala Tyr Lys Phe Pro Glu Leu Leu Pro Leu Ser Glu Leu  
275 280 285  
Ser Pro Pro Met Leu Ile Glu His Pro Leu Arg Cys Leu Val Leu Cys  
290 295 300  
Ala Gln Val His Ala Gly Met Trp Arg Arg Asn Gly Phe Ser Leu Val  
305 310 315 320  
Asn Gln Ile Tyr Tyr Tyr His Asn Val Lys Cys Arg Arg Glu Met Phe  
325 330 335  
Asp Lys Asp Val Val Met Leu Gln Thr Gly Val Ser Met Met Asp Pro  
340 345 350  
Asn His Phe Leu Met Ile Met Leu Ser Arg Phe Glu Leu Tyr Gln Ile  
355 360 365  
Phe Ser Thr Pro Asp Tyr Gly Lys Arg Phe Ser Ser Glu Ile Thr His  
370 375 380  
Lys Asp Val Val Gln Gln Asn Asn Thr Leu Ile Glu Glu Met Leu Tyr  
385 390 395 400  
Leu Ile Ile Met Leu Val Gly Glu Arg Phe Ser Pro Gly Val Gly Gln



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 415 |     |     |  |
| Val | Asn | Ala | Thr | Asp | Glu | Ile | Lys | Arg | Glu | Ile | Ile | His | Gln | Leu | Ser |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Ile | Lys | Pro | Met | Ala | His | Ser | Glu | Leu | Val | Lys | Ser | Leu | Pro | Glu | Asp |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Glu | Asn | Lys | Glu | Thr | Gly | Met | Glu | Ser | Val | Ile | Glu | Ala | Val | Ala | His |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Phe | Lys | Lys | Pro | Gly | Leu | Thr | Gly | Arg | Gly | Met | Tyr | Glu | Leu | Lys | Pro |  |
| 465 |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     |     | 480 |  |
| Glu | Cys | Ala | Lys | Glu | Phe | Asn | Leu | Tyr | Phe | Tyr | His | Phe | Ser | Arg | Ala |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |  |
| Glu | Gln | Ser | Lys | Ala | Glu | Glu | Ala | Gln | Arg | Lys | Leu | Lys | Arg | Gln | Asn |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Arg | Glu | Asp | Thr | Ala | Leu | Pro | Pro | Pro | Val | Leu | Pro | Pro | Phe | Cys | Pro |  |
|     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |  |
| Leu | Phe | Ala | Ser | Leu | Val | Asn | Ile | Leu | Gln | Ser | Asp | Val | Met | Leu | Cys |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Ile | Met | Gly | Thr | Ile | Leu | Gln | Trp | Ala | Val | Glu | His | Asn | Gly | Tyr | Ala |  |
| 545 |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     |     | 560 |  |
| Trp | Ser | Glu | Ser | Met | Leu | Gln | Arg | Val | Leu | His | Leu | Ile | Gly | Met | Ala |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |  |
| Leu | Gln | Glu | Glu | Lys | Gln | His | Leu | Glu | Asn | Val | Thr | Glu | Glu | His | Val |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Val | Thr | Phe | Thr | Phe | Thr | Gln | Lys | Ile | Ser | Lys | Pro | Gly | Glu | Ala | Pro |  |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |  |
| Lys | Asn | Ser | Pro | Ser | Ile | Leu | Ala | Met | Leu | Glu | Thr | Leu | Gln | Asn | Ala |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Pro | Tyr | Leu | Glu | Val | His | Lys | Asp | Met | Ile | Arg | Trp | Ile | Leu | Lys | Thr |  |
| 625 |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     |     | 640 |  |
| Phe | Asn | Ala | Val | Lys | Lys | Met | Arg | Glu | Ser | Ser | Pro | Thr | Ser | Pro | Val |  |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     |     |     | 655 |     |  |
| Ala | Glu | Thr | Glu | Gly | Thr | Ile | Met | Glu | Glu | Ser | Ser | Arg | Asp | Lys | Asp |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Lys | Ala | Glu | Arg | Lys | Arg | Lys | Ala | Glu | Ile | Ala | Arg | Leu | Arg | Arg | Glu |  |
|     | 675 |     |     |     |     | 680 |     |     |     |     |     | 685 |     |     |     |  |
| Lys | Ile | Met | Ala | Gln | Met | Ser | Glu | Met | Gln | Arg | His | Phe | Ile | Asp | Glu |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |
| Asn | Lys | Glu | Leu | Phe | Gln | Gln | Thr | Leu | Glu | Leu | Asp | Ala | Ser | Thr | Ser |  |
| 705 |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     |     | 720 |  |
| Ala | Val | Leu | Asp | His | Ser | Pro | Val | Ala | Ser | Asp | Met | Thr | Leu | Thr | Ala |  |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     |     | 735 |     |  |
| Leu | Gly | Pro | Ala | Gln | Thr | Gln | Val | Pro | Glu | Gln | Arg | Gln | Phe | Val | Thr |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Cys | Ile | Leu | Cys | Gln | Glu | Glu | Gln | Glu | Val | Lys | Val | Glu | Ser | Arg | Ala |  |
|     | 755 |     |     |     |     | 760 |     |     |     |     |     | 765 |     |     |     |  |
| Met | Val | Leu | Ala | Ala | Phe | Val | Gln | Arg | Ser | Thr | Val | Leu | Ser | Lys | Asn |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |
| Arg | Ser | Lys | Phe | Ile | Gln | Asp | Pro | Glu | Lys | Tyr | Asp | Pro | Leu | Phe | Met |  |
| 785 |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     |     | 800 |  |
| His | Pro | Asp | Leu | Ser | Cys | Gly | Thr | His | Thr | Ser | Ser | Cys | Gly | His | Ile |  |
|     |     |     | 805 |     |     |     |     | 810 |     |     |     |     |     | 815 |     |  |
| Met | His | Ala | His | Cys | Trp | Gln | Arg | Tyr | Phe | Asp | Ser | Val | Gln | Ala | Lys |  |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Glu | Gln | Arg | Arg | Gln | Gln | Arg | Leu | Arg | Leu | His | Thr | Ser | Tyr | Asp | Val |  |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     |     | 845 |     |     |  |
| Glu | Asn | Gly | Glu | Phe | Leu | Cys | Pro | Leu | Cys | Glu | Cys | Leu | Ser | Asn | Thr |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |
| Val | Ile | Pro | Leu | Leu | Leu | Pro | Pro | Arg | Asn | Ile | Phe | Asn | Asn | Arg | Leu |  |
| 865 |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     |     | 880 |  |
| Asn | Phe | Ser | Asp | Gln | Pro | Asn | Leu | Thr | Gln | Trp | Ile | Arg | Thr | Ile | Ser |  |
|     |     |     | 885 |     |     |     |     | 890 |     |     |     |     |     | 895 |     |  |
| Gln | Gln | Ile | Lys | Ala | Leu | Gln | Phe | Leu | Arg | Lys | Glu | Glu | Ser | Thr | Pro |  |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |
| Asn | Asn | Ala | Ser | Thr | Lys | Asn | Ser | Glu | Asn | Val | Asp | Glu | Leu | Gln | Leu |  |

|   |                 |                             |
|---|-----------------|-----------------------------|
| 915   | 920             | 925                         |
| Pro Glu Gly Phe Arg   | Pro Asp Phe Arg | Pro Lys Ile Pro Tyr Ser Glu |
| 930   | 935             | 940                         |
| Ser Ile Lys Glu Met Leu Thr Thr Phe Gly Thr Ala Thr Tyr Lys Val |                 |                             |
| 945   | 950             | 955                         |
| Gly Leu Lys Val His Pro Asn Glu Glu Asp Pro Arg Val Pro Ile Met |                 | 960                         |
| 965   | 970             | 975                         |
| Cys Trp Gly Ser Cys Ala Tyr Thr Ile Gln Ser Ile Glu Arg Ile Leu |                 |                             |
| 980   | 985             | 990                         |
| Ser Asp Glu Asp Lys Pro Leu Phe Gly Pro Leu Pro Cys Arg Leu Asp |                 |                             |
| 995   | 1000            | 1005                        |
| Asp Cys Leu Arg Ser Leu Thr Arg Phe Ala Ala Ala His Trp Thr Val |                 |                             |
| 1010  | 1015            | 1020                        |
| Ala Ser Val Ser Val Val Gln Gly His Phe Cys Lys Pro Phe Ala Ser |                 |                             |
| 1025  | 1030            | 1035                        |
| Leu Val Pro Asn Asp Ser His Glu Glu Leu Pro Cys Ile Leu Asp Ile |                 | 1040                        |
| 1045  | 1050            | 1055                        |
| Asp Met Phe His Leu Leu Val Gly Leu Val Leu Ala Phe Pro Ala Leu |                 |                             |
| 1060  | 1065            | 1070                        |
| Gln Cys Gln Asp Phe Ser Gly Ile Ser Leu Gly Thr Gly Asp Leu His |                 |                             |
| 1075  | 1080            | 1085                        |
| Ile Phe His Leu Val Thr Met Ala His Ile Ile Gln Ile Leu Leu Thr |                 |                             |
| 1090  | 1095            | 1100                        |
| Ser Cys Thr Glu Glu Asn Gly Met Asp Gln Glu Asn Pro Pro Cys Glu |                 |                             |
| 1105  | 1110            | 1115                        |
| Glu Glu Ser Ala Val Leu Ala Leu Tyr Lys Thr Leu His Gln Tyr Thr |                 | 1120                        |
| 1125  | 1130            | 1135                        |
| Gly Ser Ala Leu Lys Glu Ile Pro Ser Gly Trp His Leu Trp Arg Ser |                 |                             |
| 1140  | 1145            | 1150                        |
| Val Arg Ala Gly Ile Met Pro Phe Leu Lys Cys Ser Ala Leu Phe Phe |                 |                             |
| 1155  | 1160            | 1165                        |
| His Tyr Leu Asn Gly Val Pro Ser Pro Pro Asp Ile Gln Val Pro Gly |                 |                             |
| 1170  | 1175            | 1180                        |
| Thr Ser His Phe Glu His Leu Cys Ser Tyr Leu Ser Leu Pro Asn Asn |                 |                             |
| 1185  | 1190            | 1195                        |
| Leu Ile Cys Leu Phe Gln Glu Asn Ser Glu Ile Met Asn Ser Leu Ile |                 | 1200                        |
| 1205  | 1210            | 1215                        |
| Glu Ser Trp Cys Arg Asn Ser Glu Val Lys Arg Tyr Leu Glu Gly Glu |                 |                             |
| 1220  | 1225            | 1230                        |
| Arg Asp Ala Ile Arg Tyr Pro Arg Glu Ser Asn Lys Leu Ile Asn Leu |                 |                             |
| 1235  | 1240            | 1245                        |
| Pro Glu Asp Tyr Ser Ser Leu Ile Asn Gln Ala Ser Asn Phe Ser Cys |                 |                             |
| 1250  | 1255            | 1260                        |
| Pro Lys Ser Gly Gly Asp Lys Ser Arg Ala Pro Thr Leu Cys Leu Val |                 |                             |
| 1265  | 1270            | 1275                        |
| Cys Gly Ser Leu Leu Cys Ser Gln Ser Tyr Cys Cys Gln Thr Glu Leu |                 | 1280                        |
| 1285  | 1290            | 1295                        |
| Glu Gly Glu Asp Val Gly Ala Cys Thr Ala His Thr Tyr Ser Cys Gly |                 |                             |
| 1300  | 1305            | 1310                        |
| Ser Gly Val Gly Ile Phe Leu Arg Val Arg Glu Cys Gln Val Leu Phe |                 |                             |
| 1315  | 1320            | 1325                        |
| Leu Ala Gly Lys Thr Lys Gly Cys Phe Tyr Ser Pro Pro Tyr Leu Asp |                 |                             |
| 1330  | 1335            | 1340                        |
| Asp Tyr Gly Glu Thr Asp Gln Gly Leu Arg Arg Gly Asn Pro Leu His |                 |                             |
| 1345  | 1350            | 1355                        |
| Leu Cys Lys Glu Arg Phe Lys Lys Ile Gln Lys Leu Trp His Gln His |                 | 1360                        |
| 1365  | 1370            | 1375                        |
| Ser Val Thr Glu Glu Ile Gly His Ala Gln Glu Ala Asn Gln Thr Leu |                 |                             |
| 1380  | 1385            | 1390                        |
| Val Gly Ile Asp Trp Gln His Leu                                 |                 |                             |
| 1395  | 1400            |                             |

<210> 3207  
 <211> 305  
 <212> PRT  
 <213> Homo sapiens

<400> 3207  
 Gln Leu Ser Pro Ser Gln Ala Pro Ala Gly Ala Gln Glu Val Ala Arg  
 1 5 10 15  
 Arg Val Thr Val Gly Ser Ala Ser His Gly Gly Arg Arg Ser Thr Met  
 20 25 30  
 Ala Thr Thr Val Ser Thr Gln Arg Gly Pro Val Tyr Ile Gly Glu Leu  
 35 40 45  
 Pro Gln Asp Phe Leu Arg Ile Thr Pro Thr Gln Gln Gln Arg Gln Val  
 50 55 60  
 Gln Leu Asp Ala Gln Ala Ala Gln Gln Leu Gln Tyr Gly Gly Ala Val  
 65 70 75 80  
 Gly Thr Val Gly Arg Leu Asn Ile Thr Val Val Gln Ala Lys Leu Ala  
 85 90 95  
 Lys Asn Tyr Gly Met Thr Arg Met Asp Pro Tyr Cys Arg Leu Arg Leu  
 100 105 110  
 Gly Tyr Ala Val Tyr Glu Thr Pro Thr Ala His Asn Gly Ala Lys Asn  
 115 120 125  
 Pro Arg Trp Asn Lys Val Ile His Cys Thr Val Pro Pro Gly Val Asp  
 130 135 140  
 Ser Phe Tyr Leu Glu Ile Phe Asp Glu Arg Ala Phe Ser Met Asp Asp  
 145 150 155 160  
 Arg Ile Ala Trp Thr His Ile Thr Ile Pro Glu Ser Leu Arg Gln Gly  
 165 170 175  
 Lys Val Glu Asp Lys Trp Tyr Ser Leu Ser Gly Arg Gln Gly Asp Asp  
 180 185 190  
 Lys Glu Gly Met Ile Asn Leu Val Met Ser Tyr Ala Leu Leu Pro Ala  
 195 200 205  
 Ala Met Val Met Pro Pro Gln Pro Val Val Leu Met Pro Thr Val Tyr  
 210 215 220  
 Gln Gln Gly Val Gly Tyr Val Pro Ile Thr Gly Met Pro Ala Val Cys  
 225 230 235 240  
 Ser Pro Gly Met Val Pro Val Ala Leu Pro Pro Ala Ala Val Asn Ala  
 245 250 255  
 Gln Pro Arg Cys Ser Glu Glu Asp Leu Lys Ala Ile Gln Asp Met Phe  
 260 265 270  
 Pro Asn Met Asp Gln Glu Val Ile Arg Ser Val Leu Glu Ala Gln Arg  
 275 280 285  
 Gly Asn Lys Asp Ala Ala Ile Asn Ser Leu Leu Gln Met Gly Glu Glu  
 290 295 300  
 Pro  
 305

<210> 3208  
 <211> 380  
 <212> PRT  
 <213> Homo sapiens

<400> 3208  
 Leu Glu Arg Thr Pro Ala Ser Ala Asp Met Ala Trp Thr Lys Tyr Gln  
 1 5 10 15  
 Leu Phe Leu Ala Gly Leu Met Leu Val Thr Gly Ser Ile Asn Thr Leu  
 20 25 30  
 Ser Ala Lys Trp Ala Asp Asn Phe Met Ala Glu Gly Cys Gly Gly Ser  
 35 40 45  
 Lys Glu His Ser Phe Gln His Pro Phe Leu Gln Ala Val Gly Met Phe

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| 50                      | 55                      | 60                  |
| Leu Gly Glu Phe Ser Cys | Leu Ala Ala Phe Tyr     | Leu Leu Arg Cys Arg |
| 65                      | 70                      | 75                  |
| Ala Ala Gly Gln Ser Asp | Ser Ser Val Asp Pro     | Gln Gln Pro Phe Asn |
| 85                      | 90                      | 95                  |
| Pro Leu Leu Phe Leu Pro | Pro Ala Leu Cys Asp Met | Thr Gly Thr Ser     |
| 100                     | 105                     | 110                 |
| Leu Met Tyr Val Ala Leu | Asn Met Thr Ser Ala Ser | Ser Phe Gln Met     |
| 115                     | 120                     | 125                 |
| Leu Arg Gly Ala Val Ile | Ile Phe Thr Gly Leu Phe | Ser Val Ala Phe     |
| 130                     | 135                     | 140                 |
| Leu Gly Arg Arg Leu Val | Leu Ser Gln Trp Leu Gly | Ile Leu Ala Thr     |
| 145                     | 150                     | 155                 |
| Ile Ala Gly Leu Val Val | Val Gly Leu Ala Asp Leu | Leu Ser Lys His     |
| 165                     | 170                     | 175                 |
| Asp Ser Gln His Lys Leu | Ser Glu Val Ile Thr Gly | Asp Leu Leu Ile     |
| 180                     | 185                     | 190                 |
| Ile Met Ala Gln Ile Ile | Val Ala Ile Gln Met Val | Leu Glu Glu Lys     |
| 195                     | 200                     | 205                 |
| Phe Val Tyr Lys His Asn | Val His Pro Leu Arg Ala | Val Gly Thr Glu     |
| 210                     | 215                     | 220                 |
| Gly Leu Phe Gly Phe Val | Ile Leu Ser Leu Leu Leu | Val Pro Met Tyr     |
| 225                     | 230                     | 235                 |
| Tyr Ile Pro Ala Gly Ser | Phe Ser Gly Asn Pro Arg | Gly Thr Leu Glu     |
| 245                     | 250                     | 255                 |
| Asp Ala Leu Asp Ala Phe | Cys Gln Val Gly Gln Gln | Pro Leu Ile Ala     |
| 260                     | 265                     | 270                 |
| Val Ala Leu Leu Gly Asn | Ile Ser Ser Ile Ala Phe | Phe Asn Phe Ala     |
| 275                     | 280                     | 285                 |
| Gly Ile Ser Val Thr Lys | Glu Leu Ser Ala Thr Thr | Arg Met Val Leu     |
| 290                     | 295                     | 300                 |
| Asp Ser Leu Arg Thr Val | Val Ile Trp Ala Leu Ser | Leu Ala Leu Gly     |
| 305                     | 310                     | 315                 |
| Trp Glu Ala Phe His Ala | Leu Gln Ile Leu Gly Phe | Leu Ile Leu Leu     |
| 325                     | 330                     | 335                 |
| Ile Gly Thr Ala Leu Tyr | Asn Gly Leu His Arg Pro | Leu Leu Gly Arg     |
| 340                     | 345                     | 350                 |
| Leu Ser Arg Gly Arg Pro | Leu Ala Glu Glu Ser Glu | Gln Glu Arg Leu     |
| 355                     | 360                     | 365                 |
| Leu Gly Gly Thr Arg Thr | Pro Ile Asn Asp Ala Ser |                     |
| 370                     | 375                     | 380                 |

&lt;210&gt; 3209

&lt;211&gt; 632

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3209

|                         |                         |                 |
|-------------------------|-------------------------|-----------------|
| Ala Lys Val Val Ser Leu | Lys Glu Phe Ser Cys Phe | Trp Arg Arg Glu |
| 1                       | 5                       | 10              |
| Lys Pro Val Ser Ser Leu | Ser Ser Leu Gln Val Lys | Ala Glu Ala Ser |
| 20                      | 25                      | 30              |
| Trp Asp Ser Ala Val His | Gly Cys Pro Gln Leu Ser | Arg Gly Thr Pro |
| 35                      | 40                      | 45              |
| Val Asp Glu Arg Leu Phe | Leu Ile Val Arg Val Thr | Val Gln Leu Ser |
| 50                      | 55                      | 60              |
| His Pro Ala Asp Met Gln | Leu Val Leu Arg Lys Arg | Ile Cys Val Asn |
| 65                      | 70                      | 75              |
| Val His Gly Arg Gln Gly | Phe Ala Gln Ser Leu Leu | Lys Lys Met Ser |
| 85                      | 90                      | 95              |
| His Arg Ser Ser Ile Pro | Gly Cys Gly Val Thr Phe | Glu Ile Val Ser |

4913

610                      615                      620  
 Glu Asn Arg Lys Ser Trp Ala Ser  
 625                      630                      632

<210> 3210  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 3210  
 Ser Pro Phe Trp Thr Glu Lys Arg Arg Met Glu Lys Pro Leu Phe Pro  
   1                      5                      10                      15  
 Leu Val Pro Leu His Trp Phe Gly Phe Gly Tyr Thr Ala Leu Val Val  
                     20                      25                      30  
 Ser Gly Gly Ile Val Gly Tyr Val Lys Thr Gly Ser Val Pro Ser Leu  
                     35                      40                      45  
 Ala Ala Gly Leu Leu Phe Gly Ser Leu Ala Gly Leu Gly Ala Tyr Gln  
                     50                      55                      60  
 Leu Tyr Gln Asp Pro Arg Asn Val Trp Gly Phe Leu Ala Ala Thr Ser  
   65                      70                      75                      80  
 Val Thr Phe Val Gly Val Met Gly Met Arg Ser Tyr Tyr Tyr Gly Lys  
                     85                      90                      95  
 Phe Met Pro Val Gly Leu Ile Ala Gly Ala Ser Leu Leu Met Ala Ala  
                     100                      105                      110  
 Lys Val Gly Val Arg Met Leu Met Thr Ser Asp  
                     115                      120                      123

<210> 3211  
 <211> 161  
 <212> PRT  
 <213> Homo sapiens

<400> 3211  
 Val Gly Met Glu Leu Pro Ala Val Asn Leu Lys Val Ile Leu Leu Gly  
   1                      5                      10                      15  
 His Trp Leu Leu Thr Thr Trp Gly Cys Ile Val Phe Ser Gly Ser Tyr  
                     20                      25                      30  
 Ala Trp Ala Asn Phe Thr Ile Leu Ala Leu Gly Val Trp Ala Val Ala  
                     35                      40                      45  
 Gln Arg Asp Ser Ile Asp Ala Ile Ser Met Phe Leu Gly Gly Leu Leu  
   50                      55                      60  
 Ala Thr Ile Phe Leu Asp Ile Val His Ile Ser Ile Phe Tyr Pro Arg  
   65                      70                      75                      80  
 Val Ser Leu Thr Asp Thr Gly Arg Phe Gly Val Gly Met Ala Ile Leu  
                     85                      90                      95  
 Ser Leu Leu Leu Lys Pro Leu Ser Cys Cys Phe Val Tyr His Met Tyr  
                     100                      105                      110  
 Arg Glu Arg Gly Gly Glu Leu Leu Val His Thr Gly Phe Leu Gly Ser  
                     115                      120                      125  
 Ser Gln Asp Arg Ser Ala Tyr Gln Thr Ile Asp Ser Ala Glu Ala Pro  
   130                      135                      140  
 Ala Asp Pro Phe Ala Val Pro Glu Gly Arg Ser Gln Asp Ala Arg Gly  
   145                      150                      155                      160  
 Tyr  
 161



<210> 3212  
 <211> 654  
 <212> PRT  
 <213> Homo sapiens

<400> 3212  
 Phe Arg Cys Gly Leu Ala Pro Lys Gly Arg Pro Arg Arg Arg Ala Asp  
 1 5 10 15  
 Pro Val Ala Ser Ala Ile Met Asp Pro Ala Glu Ala Val Leu Gln Glu  
 20 25 30  
 Lys Ala Leu Lys Phe Met Met Glu Phe Arg Ser Trp Cys Pro Gly Trp  
 35 40 45  
 Asn Thr Met Ala Arg Ser Arg Leu Thr Ala Thr Ser Thr Ser Arg Val  
 50 55 60  
 Gln Cys Ser Met Pro Arg Ser Leu Trp Leu Gly Cys Ser Ser Leu Ala  
 65 70 75 80  
 Asp Ser Met Pro Ser Leu Arg Cys Leu Tyr Asn Pro Gly Thr Gly Ala  
 85 90 95  
 Leu Thr Ala Phe Gln Asn Ser Ser Glu Arg Glu Asp Cys Asn Asn Gly  
 100 105 110  
 Glu Pro Pro Arg Lys Ile Ile Pro Glu Lys Asn Ser Leu Arg Gln Thr  
 115 120 125  
 Tyr Asn Ser Cys Ala Arg Leu Cys Leu Asn Gln Glu Thr Val Cys Leu  
 130 135 140  
 Ala Ser Thr Ala Met Lys Thr Glu Asn Cys Val Ala Lys Thr Lys Leu  
 145 150 155 160  
 Ala Asn Gly Thr Ser Ser Met Ile Val Pro Lys Gln Arg Lys Leu Ser  
 165 170 175  
 Ala Ser Tyr Glu Lys Glu Lys Glu Leu Cys Val Lys Tyr Phe Glu Gln  
 180 185 190  
 Trp Ser Glu Ser Asp Gln Val Glu Phe Val Glu His Leu Ile Ser Gln  
 195 200 205  
 Met Cys His Tyr Gln His Gly His Ile Asn Ser Tyr Leu Lys Pro Met  
 210 215 220  
 Leu Gln Arg Asp Phe Ile Thr Ala Leu Pro Ala Arg Gly Leu Asp His  
 225 230 235 240  
 Ile Ala Glu Asn Ile Leu Ser Tyr Leu Asp Ala Lys Ser Leu Cys Ala  
 245 250 255  
 Ala Glu Leu Val Cys Lys Glu Trp Tyr Arg Val Thr Ser Asp Gly Met  
 260 265 270  
 Leu Trp Lys Lys Leu Ile Glu Arg Met Val Arg Thr Asp Ser Leu Trp  
 275 280 285  
 Arg Gly Leu Ala Glu Arg Arg Gly Trp Gly Gln Tyr Leu Phe Lys Asn  
 290 295 300  
 Lys Pro Pro Asp Gly Asn Ala Pro Pro Asn Ser Phe Tyr Arg Ala Leu  
 305 310 315 320  
 Tyr Pro Lys Ile Ile Gln Asp Ile Glu Thr Ile Glu Ser Asn Trp Arg  
 325 330 335  
 Cys Gly Arg His Ser Leu Gln Arg Ile His Cys Arg Ser Glu Thr Ser  
 340 345 350  
 Lys Gly Val Tyr Cys Leu Gln Tyr Asp Asp Gln Lys Ile Val Ser Gly  
 355 360 365  
 Leu Arg Asp Asn Thr Ile Lys Ile Trp Asp Lys Asn Thr Leu Glu Cys  
 370 375 380  
 Lys Arg Ile Leu Thr Gly His Thr Gly Ser Val Leu Cys Leu Gln Tyr  
 385 390 395 400  
 Asp Glu Arg Val Ile Ile Thr Gly Ser Ser Asp Ser Thr Val Arg Val  
 405 410 415  
 Trp Asp Val Asn Thr Gly Glu Met Leu Asn Thr Leu Ile His His Cys  
 420 425 430  
 Glu Ala Val Leu His Leu Arg Phe Asn Asn Gly Met Met Val Thr Cys  
 435 440 445  
 Ser Lys Asp Arg Ser Ile Ala Val Trp Asp Met Ala Ser Pro Thr Asp

|   |                     |                     |
|---|---------------------|---------------------|
| 450   | 455                 | 460                 |
| Ile Thr Leu Arg Arg Val   | Leu Val Gly His Arg | Ala Ala Val Asn Val |
| 465   | 470                 | 475                 |
| Val Asp Phe Asp Asp Lys Tyr Ile Val Ser Ala Ser Gly Asp Arg Thr |                     | 480                 |
|   | 485                 | 490                 |
| Ile Lys Val Trp Asn Thr Ser Thr Cys Glu Phe Val Arg Thr Leu Asn |                     | 495                 |
|   | 500                 | 505                 |
| Gly His Lys Arg Gly Ile Ala Cys Leu Gln Tyr Arg Asp Arg Leu Val |                     | 510                 |
|   | 515                 | 520                 |
| Val Ser Gly Ser Ser Asp Asn Thr Ile Arg Leu Trp Asp Ile Glu Cys |                     | 525                 |
|   | 530                 | 535                 |
| Gly Ala Cys Leu Arg Val Leu Glu Gly His Glu Glu Leu Val Arg Cys |                     | 540                 |
| 545   | 550                 | 555                 |
| Ile Arg Phe Asp Asn Lys Arg Ile Val Ser Gly Ala Tyr Asp Gly Lys |                     | 560                 |
|   | 565                 | 570                 |
| Ile Lys Val Trp Asp Leu Val Ala Ala Leu Asp Pro Arg Ala Pro Ala |                     | 575                 |
|   | 580                 | 585                 |
| Gly Thr Leu Cys Leu Arg Thr Leu Val Glu His Ser Gly Arg Val Phe |                     | 590                 |
|   | 595                 | 600                 |
| Arg Leu Gln Phe Asp Glu Phe Gln Ile Val Ser Ser Ser His Asp Asp |                     | 605                 |
|   | 610                 | 615                 |
| Thr Ile Leu Ile Trp Asp Phe Leu Asn Asp Pro Ala Ala Gln Ser Glu |                     | 620                 |
| 625   | 630                 | 635                 |
| Pro Pro Arg Ser Pro Ser Arg Thr Tyr Thr Tyr Ile Ser Arg         |                     | 640                 |
|   | 645                 | 650                 |
|   |                     | 654                 |

<210> 3213  
 <211> 654  
 <212> PRT  
 <213> Homo sapiens

<400> 3213

|   |     |
|---|-----|
| Phe Arg Cys Gly Leu Ala Pro Lys Gly Arg Pro Arg Arg Arg Ala Asp |     |
| 1   | 5   |
| Pro Val Ala Ser Ala Ile Met Asp Pro Ala Glu Ala Val Leu Gln Glu | 10  |
|   | 20  |
| Lys Ala Leu Lys Phe Met Met Glu Phe Arg Ser Trp Cys Pro Gly Trp | 25  |
|   | 30  |
| Asn Thr Met Ala Arg Ser Arg Leu Thr Ala Thr Ser Thr Ser Arg Val | 35  |
|   | 40  |
| Gln Cys Ser Met Pro Arg Ser Leu Trp Leu Gly Cys Ser Ser Leu Ala | 45  |
| 65  | 70  |
| Asp Ser Met Pro Ser Leu Arg Cys Leu Tyr Asn Pro Gly Thr Gly Ala | 75  |
|   | 80  |
| Leu Thr Ala Phe Gln Asn Ser Ser Glu Arg Glu Asp Cys Asn Asn Gly | 85  |
|   | 90  |
| Glu Pro Pro Arg Lys Ile Ile Pro Glu Lys Asn Ser Leu Arg Gln Thr | 95  |
|   | 100 |
| Tyr Asn Ser Cys Ala Arg Leu Cys Leu Asn Gln Glu Thr Val Cys Leu | 105 |
|   | 110 |
| Ala Ser Thr Ala Met Lys Thr Glu Asn Cys Val Ala Lys Thr Lys Leu | 115 |
| 145   | 120 |
| Ala Asn Gly Thr Ser Ser Met Ile Val Pro Lys Gln Arg Lys Leu Ser | 125 |
|   | 130 |
| Ala Ser Tyr Glu Lys Glu Lys Glu Leu Cys Val Lys Tyr Phe Glu Gln | 135 |
|   | 140 |
| Trp Ser Glu Ser Asp Gln Val Glu Phe Val Glu His Leu Ile Ser Gln | 145 |
|   | 150 |
| Met Cys His Tyr Gln His Gly His Ile Asn Ser Tyr Leu Lys Pro Met | 155 |
| 210   | 160 |
| Leu Gln Arg Asp Phe Ile Thr Ala Leu Pro Ala Arg Gly Leu Asp His | 165 |
|   | 170 |
|   | 175 |
|   | 180 |
|   | 185 |
|   | 190 |
|   | 195 |
|   | 200 |
|   | 205 |
|   | 210 |
|   | 215 |
|   | 220 |

|   |                         |                         |  |     |  |     |
|---|-------------------------|-------------------------|--|-----|--|-----|
| 225   |                         | 230                     |  | 235 |  | 240 |
| Ile Ala Glu Asn   | Ile Leu Ser Tyr Leu Asp | Ala Lys Ser Leu Cys Ala |  |     |  |     |
|   | 245                     | 250                     |  | 255 |  |     |
| Ala Glu Leu Val Cys Lys Glu Trp Tyr Arg Val Thr Ser Asp Gly Met |                         |                         |  |     |  |     |
|   | 260                     | 265                     |  | 270 |  |     |
| Leu Trp Lys Lys Leu Ile Glu Arg Met Val Arg Thr Asp Ser Leu Trp |                         |                         |  |     |  |     |
|   | 275                     | 280                     |  | 285 |  |     |
| Arg Gly Leu Ala Glu Arg Arg Gly Trp Gly Gln Tyr Leu Phe Lys Asn |                         |                         |  |     |  |     |
|   | 290                     | 295                     |  | 300 |  |     |
| Lys Pro Pro Asp Gly Asn Ala Pro Pro Asn Ser Phe Tyr Arg Ala Leu |                         |                         |  |     |  |     |
| 305   | 310                     | 315                     |  | 320 |  |     |
| Tyr Pro Lys Ile Ile Gln Asp Ile Glu Thr Ile Glu Ser Asn Trp Arg |                         |                         |  |     |  |     |
|   | 325                     | 330                     |  | 335 |  |     |
| Cys Gly Arg His Ser Leu Gln Arg Ile His Cys Arg Ser Glu Thr Ser |                         |                         |  |     |  |     |
|   | 340                     | 345                     |  | 350 |  |     |
| Lys Gly Val Tyr Cys Leu Gln Tyr Asp Asp Gln Lys Ile Val Ser Gly |                         |                         |  |     |  |     |
|   | 355                     | 360                     |  | 365 |  |     |
| Leu Arg Asp Asn Thr Ile Lys Ile Trp Asp Lys Asn Thr Leu Glu Cys |                         |                         |  |     |  |     |
|   | 370                     | 375                     |  | 380 |  |     |
| Lys Arg Ile Leu Thr Gly His Thr Gly Ser Val Leu Cys Leu Gln Tyr |                         |                         |  |     |  |     |
| 385   | 390                     | 395                     |  | 400 |  |     |
| Asp Glu Arg Val Ile Ile Thr Gly Ser Ser Asp Ser Thr Val Arg Val |                         |                         |  |     |  |     |
|   | 405                     | 410                     |  | 415 |  |     |
| Trp Asp Val Asn Thr Gly Glu Met Leu Asn Thr Leu Ile His His Cys |                         |                         |  |     |  |     |
|   | 420                     | 425                     |  | 430 |  |     |
| Glu Ala Val Leu His Leu Arg Phe Asn Asn Gly Met Met Val Thr Cys |                         |                         |  |     |  |     |
|   | 435                     | 440                     |  | 445 |  |     |
| Ser Lys Asp Arg Ser Ile Ala Val Trp Asp Met Ala Ser Pro Thr Asp |                         |                         |  |     |  |     |
|   | 450                     | 455                     |  | 460 |  |     |
| Ile Thr Leu Arg Arg Val Leu Val Gly His Arg Ala Ala Val Asn Val |                         |                         |  |     |  |     |
| 465   | 470                     | 475                     |  | 480 |  |     |
| Val Asp Phe Asp Asp Lys Tyr Ile Val Ser Ala Ser Gly Asp Arg Thr |                         |                         |  |     |  |     |
|   | 485                     | 490                     |  | 495 |  |     |
| Ile Lys Val Trp Asn Thr Ser Thr Cys Glu Phe Val Arg Thr Leu Asn |                         |                         |  |     |  |     |
|   | 500                     | 505                     |  | 510 |  |     |
| Gly His Lys Arg Gly Ile Ala Cys Leu Gln Tyr Arg Asp Arg Leu Val |                         |                         |  |     |  |     |
|   | 515                     | 520                     |  | 525 |  |     |
| Val Ser Gly Ser Ser Asp Asn Thr Ile Arg Leu Trp Asp Ile Glu Cys |                         |                         |  |     |  |     |
|   | 530                     | 535                     |  | 540 |  |     |
| Gly Ala Cys Leu Arg Val Leu Glu Gly His Glu Glu Leu Val Arg Cys |                         |                         |  |     |  |     |
| 545   | 550                     | 555                     |  | 560 |  |     |
| Ile Arg Phe Asp Asn Lys Arg Ile Val Ser Gly Ala Tyr Asp Gly Lys |                         |                         |  |     |  |     |
|   | 565                     | 570                     |  | 575 |  |     |
| Ile Lys Val Trp Asp Leu Val Ala Ala Leu Asp Pro Arg Ala Pro Ala |                         |                         |  |     |  |     |
|   | 580                     | 585                     |  | 590 |  |     |
| Gly Thr Leu Cys Leu Arg Thr Leu Val Glu His Ser Gly Arg Val Phe |                         |                         |  |     |  |     |
|   | 595                     | 600                     |  | 605 |  |     |
| Arg Leu Gln Phe Asp Glu Phe Gln Ile Val Ser Ser Ser His Asp Asp |                         |                         |  |     |  |     |
|   | 610                     | 615                     |  | 620 |  |     |
| Thr Ile Leu Ile Trp Asp Phe Leu Asn Asp Pro Ala Ala Gln Ser Glu |                         |                         |  |     |  |     |
| 625   | 630                     | 635                     |  | 640 |  |     |
| Pro Pro Arg Ser Pro Ser Arg Thr Tyr Thr Tyr Ile Ser Arg         |                         |                         |  |     |  |     |
|   | 645                     | 650                     |  | 654 |  |     |

&lt;210&gt; 3214

&lt;211&gt; 654

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3214

Phe Arg Cys Gly Leu Ala Pro Lys Gly Arg Pro Arg Arg Arg Ala Asp

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Pro Val Ala Ser Ala Ile Met Asp Pro Ala Glu Ala Val Leu Gln Glu |     |     |     |
|   | 20  | 25  | 30  |
| Lys Ala Leu Lys Phe Met Met Glu Phe Arg Ser Trp Cys Pro Gly Trp |     |     |     |
|   | 35  | 40  | 45  |
| Asn Thr Met Ala Arg Ser Arg Leu Thr Ala Thr Ser Thr Ser Arg Val |     |     |     |
|   | 50  | 55  | 60  |
| Gln Cys Ser Met Pro Arg Ser Leu Trp Leu Gly Cys Ser Ser Leu Ala |     |     |     |
|   | 65  | 70  | 75  |
| Asp Ser Met Pro Ser Leu Arg Cys Leu Tyr Asn Pro Gly Thr Gly Ala |     |     |     |
|   | 85  | 90  | 95  |
| Leu Thr Ala Phe Gln Asn Ser Ser Glu Arg Glu Asp Cys Asn Asn Gly |     |     |     |
|   | 100 | 105 | 110 |
| Glu Pro Pro Arg Lys Ile Ile Pro Glu Lys Asn Ser Leu Arg Gln Thr |     |     |     |
|   | 115 | 120 | 125 |
| Tyr Asn Ser Cys Ala Arg Leu Cys Leu Asn Gln Glu Thr Val Cys Leu |     |     |     |
|   | 130 | 135 | 140 |
| Ala Ser Thr Ala Met Lys Thr Glu Asn Cys Val Ala Lys Thr Lys Leu |     |     |     |
|   | 145 | 150 | 155 |
| Ala Asn Gly Thr Ser Ser Met Ile Val Pro Lys Gln Arg Lys Leu Ser |     |     |     |
|   | 165 | 170 | 175 |
| Ala Ser Tyr Glu Lys Glu Lys Glu Leu Cys Val Lys Tyr Phe Glu Gln |     |     |     |
|   | 180 | 185 | 190 |
| Trp Ser Glu Ser Asp Gln Val Glu Phe Val Glu His Leu Ile Ser Gln |     |     |     |
|   | 195 | 200 | 205 |
| Met Cys His Tyr Gln His Gly His Ile Asn Ser Tyr Leu Lys Pro Met |     |     |     |
|   | 210 | 215 | 220 |
| Leu Gln Arg Asp Phe Ile Thr Ala Leu Pro Ala Arg Gly Leu Asp His |     |     |     |
|   | 225 | 230 | 235 |
| Ile Ala Glu Asn Ile Leu Ser Tyr Leu Asp Ala Lys Ser Leu Cys Ala |     |     |     |
|   | 245 | 250 | 255 |
| Ala Glu Leu Val Cys Lys Glu Trp Tyr Arg Val Thr Ser Asp Gly Met |     |     |     |
|   | 260 | 265 | 270 |
| Leu Trp Lys Lys Leu Ile Glu Arg Met Val Arg Thr Asp Ser Leu Trp |     |     |     |
|   | 275 | 280 | 285 |
| Arg Gly Leu Ala Glu Arg Arg Gly Trp Gly Gln Tyr Leu Phe Lys Asn |     |     |     |
|   | 290 | 295 | 300 |
| Lys Pro Pro Asp Gly Asn Ala Pro Pro Asn Ser Phe Tyr Arg Ala Leu |     |     |     |
|   | 305 | 310 | 315 |
| Tyr Pro Lys Ile Ile Gln Asp Ile Glu Thr Ile Glu Ser Asn Trp Arg |     |     |     |
|   | 325 | 330 | 335 |
| Cys Gly Arg His Ser Leu Gln Arg Ile His Cys Arg Ser Glu Thr Ser |     |     |     |
|   | 340 | 345 | 350 |
| Lys Gly Val Tyr Cys Leu Gln Tyr Asp Asp Gln Lys Ile Val Ser Gly |     |     |     |
|   | 355 | 360 | 365 |
| Leu Arg Asp Asn Thr Ile Lys Ile Trp Asp Lys Asn Thr Leu Glu Cys |     |     |     |
|   | 370 | 375 | 380 |
| Lys Arg Ile Leu Thr Gly His Thr Gly Ser Val Leu Cys Leu Gln Tyr |     |     |     |
|   | 385 | 390 | 395 |
| Asp Glu Arg Val Ile Ile Thr Gly Ser Ser Asp Ser Thr Val Arg Val |     |     |     |
|   | 405 | 410 | 415 |
| Trp Asp Val Asn Thr Gly Glu Met Leu Asn Thr Leu Ile His His Cys |     |     |     |
|   | 420 | 425 | 430 |
| Glu Ala Val Leu His Leu Arg Phe Asn Asn Gly Met Met Val Thr Cys |     |     |     |
|   | 435 | 440 | 445 |
| Ser Lys Asp Arg Ser Ile Ala Val Trp Asp Met Ala Ser Pro Thr Asp |     |     |     |
|   | 450 | 455 | 460 |
| Ile Thr Leu Arg Arg Val Leu Val Gly His Arg Ala Ala Val Asn Val |     |     |     |
|   | 465 | 470 | 475 |
| Val Asp Phe Asp Asp Lys Tyr Ile Val Ser Ala Ser Gly Asp Arg Thr |     |     |     |
|   | 485 | 490 | 495 |
| Ile Lys Val Trp Asn Thr Ser Thr Cys Glu Phe Val Arg Thr Leu Asn |     |     |     |
|   | 500 | 505 | 510 |
| Gly His Lys Arg Gly Ile Ala Cys Leu Gln Tyr Arg Asp Arg Leu Val |     |     |     |

|   |     |     |
|---|-----|-----|
| 515   | 520 | 525 |
| Val Ser Gly Ser Ser Asp Asn Thr Ile Arg Leu Trp Asp Ile Glu Cys |     |     |
| 530   | 535 | 540 |
| Gly Ala Cys Leu Arg Val Leu Glu Gly His Glu Glu Leu Val Arg Cys |     |     |
| 545   | 550 | 555 |
| Ile Arg Phe Asp Asn Lys Arg Ile Val Ser Gly Ala Tyr Asp Gly Lys |     |     |
| 565   | 570 | 575 |
| Ile Lys Val Trp Asp Leu Val Ala Ala Leu Asp Pro Arg Ala Pro Ala |     |     |
| 580   | 585 | 590 |
| Gly Thr Leu Cys Leu Arg Thr Leu Val Glu His Ser Gly Arg Val Phe |     |     |
| 595   | 600 | 605 |
| Arg Leu Gln Phe Asp Glu Phe Gln Ile Val Ser Ser Ser His Asp Asp |     |     |
| 610   | 615 | 620 |
| Thr Ile Leu Ile Trp Asp Phe Leu Asn Asp Pro Ala Ala Gln Ser Glu |     |     |
| 625   | 630 | 635 |
| Pro Pro Arg Ser Pro Ser Arg Thr Tyr Thr Tyr Ile Ser Arg         |     |     |
| 645   | 650 | 654 |

<210> 3215  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 3215

|   |     |     |
|---|-----|-----|
| Glu Ala Arg Leu Val Gly Cys Gln Arg Gly Gly Pro Ala Arg Pro Gly |     |     |
| 1   | 5   | 10  |
| Ser Tyr Ser Ser Gly Ala Glu Thr Ala Gly Arg Ala Met Ala Asn     |     |     |
| 20  | 25  | 30  |
| Leu Ser Arg Asn Gly Pro Ala Leu Gln Glu Ala Tyr Val Arg Val Val |     |     |
| 35  | 40  | 45  |
| Thr Glu Lys Ser Pro Thr Asp Trp Ala Leu Phe Thr Tyr Glu Gly Asn |     |     |
| 50  | 55  | 60  |
| Ser Asn Asp Ile Arg Val Ala Gly Thr Gly Glu Gly Gly Leu Glu Glu |     |     |
| 65  | 70  | 75  |
| Met Val Glu Glu Leu Asn Ser Gly Lys Val Met Tyr Ala Phe Cys Arg |     |     |
| 85  | 90  | 95  |
| Val Lys Asp Pro Asn Ser Gly Leu Pro Lys Phe Val Leu Ile Asn Trp |     |     |
| 100   | 105 | 110 |
| Thr Gly Glu Gly Val Asn Asp Val Arg Lys Gly Ala Cys Ala Ser His |     |     |
| 115   | 120 | 125 |
| Val Ser Thr Met Ala Ser Phe Leu Lys Gly Ala His Val Thr Ile Asn |     |     |
| 130   | 135 | 140 |
| Ala Arg Ala Glu Glu Asp Val Glu Pro Glu Cys Ile Met Glu Lys Val |     |     |
| 145   | 150 | 155 |
| Ala Lys Ala Ser Gly Ala Asn Tyr Ser Phe His Lys Glu Ser Gly Arg |     |     |
| 165   | 170 | 175 |
| Phe Gln Asp Val Gly Pro Gln Ala Pro Val Gly Ser Val Tyr Gln Lys |     |     |
| 180   | 185 | 190 |
| Thr Asn Ala Val Ser Glu Ile Lys Arg Val Gly Lys Asp Ser Phe Trp |     |     |
| 195   | 200 | 205 |
| Ala Lys Ala Glu Lys Glu Glu Glu Asn Arg Arg Leu Glu Glu Lys Arg |     |     |
| 210   | 215 | 220 |
| Arg Ala Glu Glu Ala Gln Arg Gln Leu Glu Gln Glu Arg Arg Glu Arg |     |     |
| 225   | 230 | 235 |
| Glu Leu Arg Glu Ala Ala Arg Arg Glu Gln Arg Tyr Gln Glu Gln Gly |     |     |
| 245   | 250 | 255 |
| Gly Glu Ala Ser Pro Gln Arg Thr Trp Glu Gln Gln Gln Glu Val Val |     |     |
| 260   | 265 | 270 |
| Ser Arg Asn Arg Asn Glu Gln Glu Ser Ala Val His Pro Arg Glu Ile |     |     |
| 275   | 280 | 285 |
| Phe Lys Gln Lys Glu Arg Ala Met Ser Thr Thr Ser Ile Ser Ser Pro |     |     |

|   |     |     |
|---|-----|-----|
| 290   | 295 | 300 |
| Gln Pro Gly Lys Leu Arg Ser Pro Phe Leu Gln Lys Gln Leu Thr Gln |     |     |
| 305   | 310 | 315 |
| Pro Glu Thr His Phe Gly Arg Glu Pro Ala Ala Ala Ile Ser Arg Pro |     | 320 |
|   | 325 | 330 |
| Arg Ala Asp Leu Pro Ala Glu Glu Pro Ala Pro Ser Thr Pro Pro Cys |     | 335 |
|   | 340 | 345 |
| Leu Val Gln Ala Glu Glu Glu Ala Val Tyr Glu Glu Pro Pro Glu Gln |     | 350 |
|   | 355 | 360 |
| Glu Thr Phe Tyr Glu Gln Pro Pro Leu Val Gln Gln Gln Gly Ala Gly |     | 365 |
|   | 370 | 375 |
| Ser Glu His Ile Asp His His Ile Gln Gly Gln Gly Leu Ser Gly Gln |     | 380 |
| 385   | 390 | 395 |
| Gly Leu Cys Ala Arg Ala Leu Tyr Asp Tyr Gln Ala Ala Asp Asp Thr |     | 400 |
|   | 405 | 410 |
| Glu Ile Ser Phe Asp Pro Glu Asn Leu Ile Thr Gly Ile Glu Val Ile |     | 415 |
|   | 420 | 425 |
| Asp Glu Gly Trp Trp Arg Gly Tyr Gly Pro Asp Gly His Phe Gly Met |     | 430 |
|   | 435 | 440 |
| Phe Pro Ala Asn Tyr Val Glu Leu Ile Glu                         |     | 445 |
| 450   | 455 | 458 |

<210> 3216  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3216  |
| Ala Met Ala Ser Thr Leu Glu Tyr Ser Pro Ser Pro Leu Arg Arg Leu |
| 1 5 10 15   |
| Val Gly Pro Ala Ala Gly Phe Ser Arg Ala Ala Arg Ala Asp Leu Ser |
| 20 25 30  |
| Trp Asp Pro Met Ala Phe Phe Thr Gly Leu Trp Gly Pro Phe Thr Cys |
| 35 40 45  |
| Val Ser Arg Val Leu Ser His His Cys Phe Ser Thr Thr Gly Ser Leu |
| 50 55 60  |
| Ser Ala Ile Gln Lys Met Thr Arg Val Arg Val Val Asp Asn Ser Ala |
| 65 70 75 80   |
| Leu Gly Asn Ser Pro Tyr His Arg Ala Pro Arg Cys Ile His Val Tyr |
| 85 90 95  |
| Lys Lys Asn Gly Val Gly Lys Val Gly Asp Gln Ile Leu Leu Ala Ile |
| 100 105 110   |
| Lys Gly Gln Lys Lys Lys Ala Leu Ile Val Gly His Cys Met Pro Gly |
| 115 120 125   |
| Pro Arg Met Thr Pro Arg Phe Asp Ser Asn Asn Val Val Leu Ile Glu |
| 130 135 140   |
| Asp Asn Gly Asn Pro Val Gly Thr Arg Ile Lys Thr Pro Ile Pro Thr |
| 145 150 155 160   |
| Ser Leu Arg Lys Arg Glu Gly Glu Tyr Ser Lys Val Leu Ala Ile Ala |
| 165 170 175   |
| Gln Asn Phe Val   |
| 180   |

<210> 3217  
 <211> 521  
 <212> PRT  
 <213> Homo sapiens



&lt;400&gt; 3217

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Met Leu Cys Ala Leu Leu Leu Leu Pro Ser Leu Leu Gly Ala Thr Arg
 1           5           10           15
Ala Ser Pro Thr Ser Gly Pro Gln Glu Cys Ala Lys Gly Ser Thr Val
           20           25           30
Trp Cys Gln Asp Leu Gln Thr Ala Ala Arg Cys Gly Ala Val Gly Tyr
           35           40           45
Cys Gln Gly Ala Val Trp Asn Lys Pro Thr Ala Lys Ser Leu Pro Cys
           50           55           60
Asp Val Cys Gln Asp Ile Ala Ala Ala Ala Gly Asn Gly Leu Asn Pro
           65           70           75           80
Asp Ala Thr Glu Ser Asp Ile Leu Ala Leu Val Met Lys Thr Cys Glu
           85           90           95
Trp Leu Pro Ser Gln Glu Ser Ser Ala Gly Cys Lys Trp Met Val Asp
           100          105          110
Ala His Ser Ser Ala Ile Leu Ser Met Leu Arg Gly Ala Pro Asp Ser
           115          120          125
Ala Pro Ala Gln Val Cys Thr Ala Leu Ser Leu Cys Glu Pro Leu Gln
           130          135          140
Arg His Leu Ala Thr Leu Arg Pro Leu Ser Lys Glu Asp Thr Phe Glu
           145          150          155          160
Ala Val Ala Pro Phe Met Ala Asn Gly Pro Leu Thr Phe His Pro Arg
           165          170          175
Gln Ala Pro Glu Gly Ala Leu Cys Gln Asp Cys Val Arg Gln Val Ser
           180          185          190
Arg Leu Gln Glu Ala Val Arg Ser Asn Leu Thr Leu Ala Asp Leu Asn
           195          200          205
Ile Gln Glu Gln Cys Glu Ser Leu Gly Pro Gly Leu Ala Val Leu Cys
           210          215          220
Lys Asn Tyr Leu Phe Gln Phe Phe Val Pro Ala Asp Gln Ala Leu Arg
           225          230          235          240
Leu Leu Pro Pro Gln Glu Leu Cys Arg Lys Gly Gly Phe Cys Glu Glu
           245          250          255
Leu Gly Ala Pro Ala Arg Leu Thr Gln Val Val Ala Met Asp Gly Val
           260          265          270
Pro Ser Leu Glu Leu Gly Leu Pro Arg Lys Gln Ser Glu Met Gln Met
           275          280          285
Lys Ala Gly Val Thr Cys Glu Val Cys Met Asn Val Val Gln Lys Leu
           290          295          300
Asp His Trp Leu Met Ser Asn Ser Ser Glu Leu Met Ile Thr His Ala
           305          310          315          320
Leu Glu Arg Val Cys Ser Val Met Pro Ala Ser Ile Thr Lys Glu Cys
           325          330          335
Ile Ile Leu Val Asp Thr Tyr Ser Pro Ser Leu Val Gln Leu Val Ala
           340          345          350
Lys Ile Thr Pro Glu Lys Val Cys Lys Phe Ile Arg Leu Cys Gly Asn
           355          360          365
Arg Arg Arg Ala Arg Ala Val His Asp Ala Tyr Ala Ile Val Pro Ser
           370          375          380
Pro Glu Trp Asp Ala Glu Asn Gln Gly Ser Phe Cys Asn Gly Cys Lys
           385          390          395          400
Arg Leu Leu Thr Val Ser Ser His Asn Leu Glu Ser Lys Ser Thr Lys
           405          410          415
Arg Asp Ile Leu Val Ala Phe Lys Gly Gly Cys Ser Ile Leu Pro Leu
           420          425          430
Pro Tyr Met Ile Gln Cys Lys His Phe Val Thr Gln Tyr Glu Pro Val
           435          440          445
Leu Ile Glu Ser Leu Lys Asp Met Met Asp Pro Val Ala Val Cys Lys
           450          455          460
Lys Val Gly Ala Cys His Gly Pro Arg Thr Pro Leu Leu Gly Thr Asp
           465          470          475          480
Gln Cys Ala Leu Gly Pro Ser Phe Trp Cys Arg Ser Gln Glu Ala Ala
           485          490          495
Lys Leu Cys Asn Ala Val Gln His Cys Gln Lys His Val Trp Lys Glu

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500 505 510  
 Met His Leu His Ala Gly Glu His Ala  
 515 520 521

<210> 3218  
 <211> 521  
 <212> PRT  
 <213> Homo sapiens

<400> 3218  
 Met Leu Cys Ala Leu Leu Leu Leu Pro Ser Leu Leu Gly Ala Thr Arg  
 1 5 10 15  
 Ala Ser Pro Thr Ser Gly Pro Gln Glu Cys Ala Lys Gly Ser Thr Val  
 20 25 30  
 Trp Cys Gln Asp Leu Gln Thr Ala Ala Arg Cys Gly Ala Val Gly Tyr  
 35 40 45  
 Cys Gln Gly Ala Val Trp Asn Lys Pro Thr Ala Lys Ser Leu Pro Cys  
 50 55 60  
 Asp Val Cys Gln Asp Ile Ala Ala Ala Gly Asn Gly Leu Asn Pro  
 65 70 75 80  
 Asp Ala Thr Glu Ser Asp Ile Leu Ala Leu Val Met Lys Thr Cys Glu  
 85 90 95  
 Trp Leu Pro Ser Gln Glu Ser Ser Ala Gly Cys Lys Trp Met Val Asp  
 100 105 110  
 Ala His Ser Ser Ala Ile Leu Ser Met Leu Arg Gly Ala Pro Asp Ser  
 115 120 125  
 Ala Pro Ala Gln Val Cys Thr Ala Leu Ser Leu Cys Glu Pro Leu Gln  
 130 135 140  
 Arg His Leu Ala Thr Leu Arg Pro Leu Ser Lys Glu Asp Thr Phe Glu  
 145 150 155 160  
 Ala Val Ala Pro Phe Met Ala Asn Gly Pro Leu Thr Phe His Pro Arg  
 165 170 175  
 Gln Ala Pro Glu Gly Ala Leu Cys Gln Asp Cys Val Arg Gln Val Ser  
 180 185 190  
 Arg Leu Gln Glu Ala Val Arg Ser Asn Leu Thr Leu Ala Asp Leu Asn  
 195 200 205  
 Ile Gln Glu Gln Cys Glu Ser Leu Gly Pro Gly Leu Ala Val Leu Cys  
 210 215 220  
 Lys Asn Tyr Leu Phe Gln Phe Phe Val Pro Ala Asp Gln Ala Leu Arg  
 225 230 235 240  
 Leu Leu Pro Pro Gln Glu Leu Cys Arg Lys Gly Gly Phe Cys Glu Glu  
 245 250 255  
 Leu Gly Ala Pro Ala Arg Leu Thr Gln Val Val Ala Met Asp Gly Val  
 260 265 270  
 Pro Ser Leu Glu Leu Gly Leu Pro Arg Lys Gln Ser Glu Met Gln Met  
 275 280 285  
 Lys Ala Gly Val Thr Cys Glu Val Cys Met Asn Val Val Gln Lys Leu  
 290 295 300  
 Asp His Trp Leu Met Ser Asn Ser Ser Glu Leu Met Ile Thr His Ala  
 305 310 315 320  
 Leu Glu Arg Val Cys Ser Val Met Pro Ala Ser Ile Thr Lys Glu Cys  
 325 330 335  
 Ile Ile Leu Val Asp Thr Tyr Ser Pro Ser Leu Val Gln Leu Val Ala  
 340 345 350  
 Lys Ile Thr Pro Glu Lys Val Cys Lys Phe Ile Arg Leu Cys Gly Asn  
 355 360 365  
 Arg Arg Arg Ala Arg Ala Val His Asp Ala Tyr Ala Ile Val Pro Ser  
 370 375 380  
 Pro Glu Trp Asp Ala Glu Asn Gln Gly Ser Phe Cys Asn Gly Cys Lys  
 385 390 395 400  
 Arg Leu Leu Thr Val Ser Ser His Asn Leu Glu Ser Lys Ser Thr Lys

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Arg | Asp | Ile | Leu | Val | Ala | Phe | Lys | Gly | Gly | Cys | Ser | Ile | Leu | Pro | Leu |  |  |
|     |     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |  |  |
| Pro | Tyr | Met | Ile | Gln | Cys | Lys | His | Phe | Val | Thr | Gln | Tyr | Glu | Pro | Val |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Leu | Ile | Glu | Ser | Leu | Lys | Asp | Met | Met | Asp | Pro | Val | Ala | Val | Cys | Lys |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |  |  |
| Lys | Val | Gly | Ala | Cys | His | Gly | Pro | Arg | Thr | Pro | Leu | Leu | Gly | Thr | Asp |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Gln | Cys | Ala | Leu | Gly | Pro | Ser | Phe | Trp | Cys | Arg | Ser | Gln | Glu | Ala | Ala |  |  |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Lys | Leu | Cys | Asn | Ala | Val | Gln | His | Cys | Gln | Lys | His | Val | Trp | Lys | Glu |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Met | His | Leu | His | Ala | Gly | Glu | His | Ala |     |     |     |     |     |     |     |  |  |
|     |     | 515 |     |     |     |     | 520 | 521 |     |     |     |     |     |     |     |  |  |

<210> 3219  
 <211> 350  
 <212> PRT  
 <213> Homo sapiens

<400> 3219

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Thr | Ser | Ala | Glu | Gly | Trp | Lys | Gly | Cys | Thr | Cys | Thr | Phe | Lys | Asp | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Ser | Lys | Leu | Arg | Glu | His | Leu | Arg | Ser | His | Thr | Gln | Glu | Lys | Val | Val |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Ala | Cys | Pro | Thr | Cys | Gly | Gly | Met | Phe | Ala | Asn | Asn | Thr | Lys | Phe | Leu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |  |  |
| Asp | His | Ile | Arg | Arg | Gln | Thr | Ser | Leu | Asp | Gln | Gln | His | Phe | Gln | Cys |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Ser | His | Cys | Ser | Lys | Arg | Phe | Ala | Thr | Glu | Arg | Leu | Leu | Arg | Asp | His |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Met | Arg | Asn | His | Val | Asn | His | Tyr | Lys | Cys | Pro | Leu | Cys | Asp | Met | Thr |  |  |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Cys | Pro | Leu | Pro | Ser | Ser | Leu | Arg | Asn | His | Met | Arg | Phe | Arg | His | Ser |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Asp | Arg | Pro | Phe | Lys | Cys | Asp | Cys | Cys | Asp | Tyr | Ser | Cys | Lys | Asn |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Leu | Ile | Asp | Leu | Gln | Lys | His | Leu | Asp | Thr | His | Ser | Glu | Glu | Pro | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |
| Tyr | Arg | Cys | Asp | Phe | Glu | Asn | Cys | Thr | Phe | Ser | Ala | Arg | Ser | Leu | Cys |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Ser | Ile | Lys | Ser | His | Tyr | Arg | Lys | Val | His | Glu | Gly | Asp | Ser | Glu | Pro |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Arg | Tyr | Lys | Cys | His | Val | Cys | Asp | Lys | Cys | Phe | Thr | Arg | Gly | Asn | Asn |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Leu | Thr | Val | His | Leu | Arg | Lys | Lys | His | Gln | Phe | Lys | Trp | Pro | Ser | Gly |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| His | Pro | Arg | Phe | Arg | Tyr | Lys | Glu | His | Glu | Asp | Gly | Tyr | Met | Arg | Leu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Gln | Leu | Val | Arg | Tyr | Glu | Ser | Val | Glu | Leu | Thr | Gln | Gln | Leu | Leu | Arg |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gln | Pro | Gln | Glu | Gly | Ser | Gly | Leu | Gly | Thr | Ser | Leu | Asn | Glu | Ser | Ser |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Leu | Gln | Gly | Ile | Ile | Leu | Glu | Thr | Val | Pro | Gly | Glu | Pro | Gly | Arg | Lys |  |  |
|     | 260 |     |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Glu | Glu | Glu | Glu | Glu | Gly | Lys | Gly | Ser | Glu | Gly | Thr | Ala | Leu | Ser | Ala |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ser | Gln | Asp | Asn | Pro | Ser | Ser | Val | Ile | His | Val | Val | Asn | Gln | Thr | Asn |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ala | Gln | Gly | Gln | Gln | Glu | Ile | Val | Tyr | Tyr | Val | Leu | Ser | Glu | Ala | Pro |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Gly | Glu | Pro | Pro | Pro | Val | Pro | Glu | Pro | Pro | Ser | Gly | Gly | Ile | Met | Glu |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Lys | Leu | Gln | Gly | Ile | Ala | Glu | Glu | Pro | Glu | Ile | Gln | Met | Val |     |     |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |

<210> 3220  
 <211> 672  
 <212> PRT  
 <213> Homo sapiens

<400> 3220

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Gly | Ile | Pro | Ser | Gly | Asn | Thr | Arg | Gly | Thr | Gly | Leu | Val | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Gly | Asp | Thr | Ser | Tyr | Thr | Tyr | His | Leu | Val | Cys | Met | Gly | Pro | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ser | Gly | Trp | Gly | Gln | Asp | Glu | Pro | Gln | Thr | Trp | Pro | Thr | Asp | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ala | Gln | Gln | Gly | Val | Gln | Arg | Gln | Gly | Val | Ser | Tyr | Ser | Val | His |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Tyr | Thr | Gly | Gln | Pro | Ser | Pro | Arg | Gly | Leu | His | Ser | Glu | Asn | Arg |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Asp | Glu | Gly | Trp | Gln | Val | Tyr | Arg | Leu | Gly | Ala | Arg | Asp | Ala | His |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln | Gly | Arg | Pro | Thr | Trp | Ala | Leu | Arg | Pro | Glu | Asp | Gly | Glu | Asp | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Met | Lys | Thr | Tyr | Arg | Leu | Asp | Ala | Gly | Asp | Ala | Asp | Pro | Arg | Arg |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Cys | Asp | Leu | Glu | Arg | Glu | Arg | Trp | Ala | Val | Ile | Gln | Gly | Gln | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Arg | Lys | Ser | Ser | Thr | Val | Ala | Thr | Leu | Gln | Gly | Thr | Pro | Asp | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Asp | Pro | Arg | Thr | Pro | Gly | Pro | Pro | Arg | Ser | Thr | Pro | Leu | Glu | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Val | Val | Asp | Arg | Glu | Gln | Ile | Asp | Phe | Leu | Ala | Ala | Arg | Gln | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Phe | Leu | Ser | Leu | Glu | Gln | Ala | Asn | Lys | Gly | Ala | Pro | His | Ser | Ser | Pro |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Arg | Gly | Thr | Pro | Ala | Gly | Thr | Thr | Pro | Gly | Ala | Ser | Gln | Ala | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Ala | Phe | Asn | Lys | Pro | His | Leu | Ala | Asn | Gly | His | Val | Val | Pro | Ile |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Lys | Pro | Gln | Val | Lys | Gly | Val | Val | Arg | Glu | Glu | Asn | Lys | Val | Arg | Ala |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Pro | Thr | Trp | Ala | Ser | Val | Gln | Val | Val | Asp | Asp | Pro | Gly | Ser | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Ser | Val | Glu | Ser | Pro | Gly | Thr | Pro | Lys | Glu | Thr | Pro | Ile | Glu | Arg |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Ile | Arg | Leu | Ala | Gln | Glu | Arg | Glu | Ala | Asp | Leu | Arg | Glu | Gln | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gly | Leu | Arg | Gln | Ala | Thr | Asp | His | Gln | Glu | Leu | Val | Glu | Ile | Pro | Thr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Arg | Pro | Leu | Leu | Thr | Lys | Leu | Ser | Leu | Ile | Thr | Ala | Pro | Arg | Arg | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Arg | Gly | Arg | Pro | Ser | Leu | Tyr | Val | Gln | Arg | Asp | Ile | Val | Gln | Glu | Thr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gln | Arg | Glu | Glu | Asp | His | Arg | Arg | Glu | Gly | Leu | His | Val | Gly | Arg | Ala |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Thr | Pro | Asp | Trp | Val | Ser | Glu | Gly | Pro | Gln | Pro | Gly | Leu | Arg | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ala | Leu | Ser | Ser | Asp | Ser | Ile | Leu | Ser | Pro | Ala | Pro | Asp | Ala | Arg | Ala |

|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| 385   |     | 390 |     | 395 |     | 400 |
| Ala Asp Pro Ala Pro Glu Val Arg Lys Val Asn Arg Ile Pro Pro Asp |     |     |     |     |     |     |
|   | 405 |     | 410 |     | 415 |     |
| Ala Tyr Gln Pro Tyr Leu Ser Pro Gly Thr Pro Gln Leu Glu Phe Ser |     |     |     |     |     |     |
|   | 420 |     | 425 |     | 430 |     |
| Ala Phe Gly Ala Phe Gly Lys Pro Ser Ser Leu Ser Thr Ala Glu Ala |     |     |     |     |     |     |
|   | 435 |     | 440 |     | 445 |     |
| Lys Ala Ala Thr Ser Pro Lys Ala Thr Met Ser Pro Arg His Leu Ser |     |     |     |     |     |     |
|   | 450 |     | 455 |     | 460 |     |
| Glu Ser Ser Gly Lys Pro Leu Ser Thr Lys Gln Glu Ala Ser Lys Pro |     |     |     |     |     |     |
| 465   | 470 |     | 475 |     | 480 |     |
| Pro Arg Gly Cys Pro Gln Ala Asn Arg Gly Val Val Arg Trp Glu Tyr |     |     |     |     |     |     |
|   | 485 |     | 490 |     | 495 |     |
| Phe Arg Leu Arg Pro Leu Arg Phe Arg Ala Pro Asp Glu Pro Gln Gln |     |     |     |     |     |     |
|   | 500 |     | 505 |     | 510 |     |
| Ala Gln Val Pro His Val Trp Gly Trp Glu Val Ala Gly Ala Pro Ala |     |     |     |     |     |     |
|   | 515 |     | 520 |     | 525 |     |
| Leu Arg Leu Gln Lys Ser Gln Ser Ser Asp Leu Leu Glu Arg Glu Arg |     |     |     |     |     |     |
|   | 530 |     | 535 |     | 540 |     |
| Glu Ser Val Leu Arg Arg Glu Gln Glu Val Ala Glu Glu Arg Arg Asn |     |     |     |     |     |     |
| 545   | 550 |     | 555 |     | 560 |     |
| Ala Leu Phe Pro Glu Val Phe Ser Pro Thr Pro Asp Glu Asn Ser Asp |     |     |     |     |     |     |
|   | 565 |     | 570 |     | 575 |     |
| Gln Asn Ser Arg Ser Ser Ser Gln Ala Ser Gly Ile Thr Gly Ser Tyr |     |     |     |     |     |     |
|   | 580 |     | 585 |     | 590 |     |
| Ser Val Ser Glu Ser Pro Phe Phe Ser Pro Ile His Leu His Ser Asn |     |     |     |     |     |     |
|   | 595 |     | 600 |     | 605 |     |
| Val Ala Trp Thr Val Glu Asp Pro Val Asp Ser Ala Pro Pro Gly Gln |     |     |     |     |     |     |
|   | 610 |     | 615 |     | 620 |     |
| Arg Lys Lys Glu Gln Trp Tyr Ala Gly Ile Asn Pro Ser Asp Gly Ile |     |     |     |     |     |     |
| 625   | 630 |     | 635 |     | 640 |     |
| Asn Ser Glu Val Leu Glu Ala Ile Arg Val Thr Arg His Lys Asn Ala |     |     |     |     |     |     |
|   | 645 |     | 650 |     | 655 |     |
| Met Ala Glu Arg Trp Glu Ser Arg Ile Tyr Ala Ser Glu Glu Asp Asp |     |     |     |     |     |     |
|   | 660 |     | 665 |     | 670 | 672 |

&lt;210&gt; 3221

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3221

|   |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|---|-----|---|-----|----|-----|----|--|--|--|--|--|--|--|--|
| Ser Arg Val Phe Phe Phe Phe Phe Phe Pro Ala Phe Lys Met Ser     |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
| 1   |     | 5 |     | 10 |     | 15 |  |  |  |  |  |  |  |  |
| Lys Arg Gly Arg Gly Gly Ser Ser Gly Ala Lys Phe Arg Ile Ser Leu |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 20  |   | 25  |    | 30  |    |  |  |  |  |  |  |  |  |
| Gly Leu Pro Val Gly Ala Val Ile Asn Cys Ala Asp Asn Thr Gly Ala |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 35  |   | 40  |    | 45  |    |  |  |  |  |  |  |  |  |
| Lys Asn Leu Tyr Ile Ile Ser Val Lys Gly Ile Lys Gly Arg Leu Asn |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 50  |   | 55  |    | 60  |    |  |  |  |  |  |  |  |  |
| Arg Leu Pro Ala Ala Gly Val Gly Asp Met Val Met Ala Thr Val Lys |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
| 65  | 70  |   | 75  |    | 80  |    |  |  |  |  |  |  |  |  |
| Lys Gly Lys Pro Glu Leu Arg Lys Lys Val His Pro Ala Val Val Ile |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 85  |   | 90  |    | 95  |    |  |  |  |  |  |  |  |  |
| Arg Gln Arg Lys Ser Tyr Arg Arg Lys Asp Gly Val Phe Leu Tyr Phe |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 100 |   | 105 |    | 110 |    |  |  |  |  |  |  |  |  |
| Glu Asp Asn Ala Gly Val Ile Val Asn Asn Lys Gly Glu Met Lys Gly |     |   |     |    |     |    |  |  |  |  |  |  |  |  |
|   | 115 |   | 120 |    | 125 |    |  |  |  |  |  |  |  |  |
| Ser Ala Ile Thr Gly Pro Val Ala Lys Glu Cys Ala Asp Leu Trp Pro |     |   |     |    |     |    |  |  |  |  |  |  |  |  |

130 135 140  
 Arg Ile Ala Ser Asn Ala Gly Ser Ile Ala  
 145 150 154

<210> 3222  
 <211> 371  
 <212> PRT  
 <213> Homo sapiens

<400> 3222  
 Pro Leu Ile Pro Leu His Pro Ala Asn Arg Ser Pro Ala Thr Met Ala  
 1 5 10 15  
 Glu Leu Gln Glu Val Gln Ile Thr Glu Glu Lys Pro Leu Leu Pro Gly  
 20 25 30  
 Gln Thr Pro Glu Ala Ala Lys Thr His Ser Val Glu Thr Pro Tyr Gly  
 35 40 45  
 Ser Val Thr Phe Thr Val Tyr Gly Thr Pro Lys Pro Lys Arg Pro Ala  
 50 55 60  
 Ile Leu Thr Tyr His Asp Val Gly Leu Asn Tyr Lys Ser Cys Phe Gln  
 65 70 75 80  
 Pro Leu Phe Gln Phe Glu Asp Met Gln Glu Ile Ile Gln Asn Phe Val  
 85 90 95  
 Arg Val His Val Asp Ala Pro Gly Met Glu Glu Gly Ala Pro Val Phe  
 100 105 110  
 Pro Leu Gly Tyr Gln Tyr Pro Ser Leu Asp Gln Leu Ala Asp Met Ile  
 115 120 125  
 Pro Cys Val Leu Gln Tyr Leu Asn Phe Ser Thr Ile Ile Gly Val Gly  
 130 135 140  
 Val Gly Ala Gly Ala Tyr Ile Leu Ala Arg Tyr Ala Leu Asn His Pro  
 145 150 155 160  
 Asp Thr Val Glu Gly Leu Val Leu Ile Asn Ile Asp Pro Asn Ala Lys  
 165 170 175  
 Gly Trp Met Asp Trp Ala Ala His Lys Leu Thr Gly Leu Thr Ser Ser  
 180 185 190  
 Ile Pro Glu Met Ile Leu Gly His Leu Phe Ser Gln Glu Glu Leu Ser  
 195 200 205  
 Gly Asn Ser Glu Leu Ile Gln Lys Tyr Arg Asn Ile Ile Thr His Ala  
 210 215 220  
 Pro Asn Leu Asp Asn Ile Glu Leu Tyr Trp Asn Ser Tyr Asn Asn Arg  
 225 230 235 240  
 Arg Asp Leu Asn Phe Glu Arg Gly Gly Asp Ile Thr Leu Arg Cys Pro  
 245 250 255  
 Val Met Leu Val Val Gly Asp Gln Ala Pro His Glu Asp Ala Val Val  
 260 265 270  
 Glu Cys Asn Ser Lys Leu Asp Pro Thr Gln Thr Ser Phe Leu Lys Met  
 275 280 285  
 Ala Asp Ser Gly Gly Gln Pro Gln Leu Thr Gln Pro Gly Lys Leu Thr  
 290 295 300  
 Glu Ala Phe Lys Tyr Phe Leu Gln Gly Met Gly Tyr Met Ala Ser Ser  
 305 310 315 320  
 Cys Met Thr Arg Leu Ser Arg Ser Arg Thr Ala Ser Leu Thr Ser Ala  
 325 330 335  
 Ala Ser Val Asp Gly Asn Arg Ser Arg Ser Arg Thr Leu Ser Gln Ser  
 340 345 350  
 Ser Glu Ser Gly Thr Leu Ser Ser Gly Pro Pro Gly His Thr Met Glu  
 355 360 365  
 Val Ser Cys  
 370 371



<210> 3223  
 <211> 510  
 <212> PRT  
 <213> Homo sapiens

<400> 3223  
 Ser Ala Arg Arg Trp Gly Ala Ala Gly Ala Gly Pro His Gly Leu His  
 1 5 10 15  
 Leu Arg Ala His Gly Pro Arg Pro Ser Val Arg Thr Gly Leu Pro Ser  
 20 25 30  
 Val Gly Arg Gln Ala Ala Gly Ala Ala Met Gly Arg Gly Trp Gly Phe  
 35 40 45  
 Leu Phe Gly Leu Leu Gly Ala Val Trp Leu Leu Ser Ser Gly His Gly  
 50 55 60  
 Glu Glu Gln Pro Pro Glu Thr Ala Ala Gln Arg Cys Phe Cys Gln Val  
 65 70 75 80  
 Ser Gly Tyr Leu Asp Asp Cys Thr Cys Asp Val Glu Thr Ile Asp Arg  
 85 90 95  
 Phe Asn Asn Tyr Arg Leu Phe Pro Arg Leu Gln Lys Leu Leu Glu Ser  
 100 105 110  
 Asp Tyr Phe Arg Tyr Tyr Lys Val Asn Leu Lys Arg Pro Cys Pro Phe  
 115 120 125  
 Trp Asn Asp Ile Ser Gln Cys Gly Arg Arg Asp Cys Ala Val Lys Pro  
 130 135 140  
 Cys Gln Ser Asp Glu Val Pro Asp Gly Ile Lys Ser Ala Ser Tyr Lys  
 145 150 155 160  
 Tyr Ser Glu Glu Ala Asn Asn Leu Ile Glu Glu Cys Glu Gln Ala Glu  
 165 170 175  
 Arg Leu Gly Ala Val Asp Glu Ser Leu Ser Glu Glu Thr Gln Lys Ala  
 180 185 190  
 Val Leu Gln Trp Thr Lys His Asp Asp Ser Ser Asp Asn Phe Cys Glu  
 195 200 205  
 Ala Asp Asp Ile Gln Ser Pro Glu Ala Glu Tyr Val Asp Leu Leu Leu  
 210 215 220  
 Asn Pro Glu Arg Tyr Thr Gly Tyr Lys Gly Pro Asp Ala Trp Lys Ile  
 225 230 235 240  
 Trp Asn Val Ile Tyr Glu Glu Asn Cys Phe Lys Pro Gln Thr Ile Lys  
 245 250 255  
 Arg Pro Leu Asn Pro Leu Ala Ser Gly Gln Gly Thr Ser Glu Glu Asn  
 260 265 270  
 Thr Phe Tyr Ser Trp Leu Glu Gly Leu Cys Val Glu Lys Arg Ala Phe  
 275 280 285  
 Tyr Arg Leu Ile Ser Gly Leu His Ala Ser Ile Asn Val His Leu Ser  
 290 295 300  
 Ala Arg Tyr Leu Leu Gln Glu Thr Trp Leu Glu Lys Lys Trp Gly His  
 305 310 315 320  
 Asn Ile Thr Glu Phe Gln Gln Arg Phe Asp Gly Ile Leu Thr Glu Gly  
 325 330 335  
 Glu Gly Pro Arg Arg Leu Lys Asn Leu Tyr Phe Leu Tyr Leu Ile Glu  
 340 345 350  
 Leu Arg Ala Leu Ser Lys Val Leu Pro Phe Phe Glu Arg Pro Asp Phe  
 355 360 365  
 Gln Leu Phe Thr Gly Asn Lys Ile Gln Asp Glu Glu Asn Lys Met Leu  
 370 375 380  
 Leu Leu Glu Ile Leu His Glu Ile Lys Ser Phe Pro Leu His Phe Asp  
 385 390 395 400  
 Glu Asn Ser Phe Phe Ala Gly Asp Lys Lys Glu Ala His Lys Leu Lys  
 405 410 415  
 Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp Cys  
 420 425 430  
 Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr Gln Gly  
 435 440 445  
 Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu Ile Ala Asn

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 450 |     | 455 |     | 460 |     |     |     |     |     |     |     |     |     |     |     |
| Met | Pro | Glu | Ser | Gly | Pro | Ser | Tyr | Glu | Phe | His | Leu | Thr | Arg | Gln | Glu |
| 465 |     | 470 |     | 475 |     |     |     |     |     |     |     |     |     |     | 480 |
| Ile | Val | Ser | Leu | Phe | Asn | Ala | Phe | Gly | Arg | Ile | Ser | Tyr | Lys | Cys | Glu |
|     |     | 485 |     | 490 |     |     |     |     |     |     |     |     |     |     | 495 |
| Arg | Ile | Arg | Lys | Thr | Ser | Arg | Asn | Leu | Gln | Asn | Ile | His |     |     |     |
|     |     | 500 |     | 505 |     |     |     |     |     |     |     | 510 |     |     |     |

<210> 3224  
 <211> 267  
 <212> PRT  
 <213> Homo sapiens

<400> 3224

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Gly | Ser | Thr | Ile | Ser | Trp | Asp | Arg | Asp | Ala | Ala | Gly | Glu | Ser | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Arg | Ala | Ala | Ser | Pro | Ser | Pro | Ser | Gly | Ser | Arg | Thr | Ala | Gly | Arg |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Pro | Ser | Pro | Ser | Tyr | Ser | Pro | Leu | Pro | Ala | Pro | Ser | Leu | Phe | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Pro | Leu | Pro | Ala | Pro | Ala | Ala | Ser | Thr | Met | Ser | Ala | Gly | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Phe | Gly | Asn | Pro | Leu | Arg | Lys | Phe | Lys | Leu | Val | Phe | Leu | Gly | Glu |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Ser | Val | Gly | Lys | Thr | Ser | Leu | Ile | Thr | Arg | Phe | Met | Tyr | Asp | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Asp | Asn | Thr | Tyr | Gln | Ala | Thr | Ile | Gly | Ile | Asp | Phe | Leu | Ser | Lys |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Thr | Met | Tyr | Leu | Glu | Asp | Arg | Thr | Val | Arg | Leu | Gln | Leu | Trp | Asp | Thr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gly | Gln | Glu | Arg | Phe | Arg | Ser | Leu | Ile | Pro | Ser | Tyr | Ile | Arg | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Thr | Val | Ala | Val | Val | Val | Tyr | Asp | Ile | Thr | Asn | Leu | Asn | Ser | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Gln | Thr | Ser | Lys | Trp | Ile | Asp | Asp | Val | Arg | Thr | Glu | Arg | Gly | Ser |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Val | Ile | Ile | Met | Leu | Val | Gly | Asn | Lys | Thr | Asp | Leu | Ala | Asp | Lys |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Gln | Ile | Thr | Ile | Glu | Glu | Gly | Glu | Gln | Arg | Ala | Lys | Glu | Leu | Ser |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Met | Phe | Ile | Glu | Thr | Ser | Ala | Lys | Thr | Gly | Tyr | Asn | Val | Lys | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Phe | Arg | Arg | Val | Ala | Ser | Ala | Leu | Pro | Gly | Met | Glu | Asn | Val | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Lys | Ser | Lys | Glu | Gly | Met | Ile | Asp | Ile | Lys | Leu | Asp | Lys | Pro | Gln |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Pro | Pro | Ala | Ser | Glu | Gly | Gly | Cys | Ser | Cys |     |     |     |     |     |
|     |     |     | 260 |     |     |     |     | 265 |     | 267 |     |     |     |     |     |

<210> 3225  
 <211> 1684  
 <212> PRT  
 <213> Homo sapiens

<400> 3225

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Glu | Val | Thr | Lys | Pro | Ser | Leu | Ser | Gln | Pro | Thr | Ala | Ala | Ser | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Gly | Ser | Ser | Pro | Ser | Pro | Pro | Val | Asn | Gly | Gly | Asn | Asn | Ala | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Val | Ala | Val | Pro | Asn | Gly | Gln | Pro | Pro | Ser | Ala | Ala | Arg | Tyr | Met |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Arg | Glu | Val | Pro | Pro | Arg | Phe | Arg | Cys | Gln | Gln | Asp | His | Lys | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Leu | Leu | Lys | Arg | Gly | Gln | Pro | Pro | Pro | Pro | Ser | Cys | Met | Leu | Leu | Gly |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Gly | Gly | Ala | Gly | Pro | Pro | Pro | Cys | Thr | Ala | Pro | Gly | Ala | Asn | Pro | Asn |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Asn | Ala | Gln | Val | Thr | Gly | Ala | Leu | Leu | Gln | Ser | Glu | Ser | Gly | Thr | Ala |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Pro | Asp | Ser | Thr | Leu | Gly | Gly | Ala | Ala | Ala | Ser | Asn | Tyr | Ala | Asn | Ser |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |
| Thr | Trp | Gly | Ser | Gly | Ala | Ser | Ser | Asn | Asn | Gly | Thr | Ser | Pro | Asn | Pro |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ile | His | Ile | Trp | Asp | Lys | Val | Ile | Val | Asp | Gly | Ser | Asp | Met | Glu | Glu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Trp | Pro | Cys | Ile | Ala | Ser | Lys | Asp | Thr | Glu | Ser | Ser | Ser | Glu | Asn | Thr |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Thr | Asp | Asn | Asn | Ser | Ala | Ser | Asn | Pro | Gly | Ser | Glu | Lys | Ser | Thr | Leu |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Pro | Gly | Ser | Thr | Thr | Ser | Asn | Lys | Gly | Lys | Gly | Ser | Gln | Cys | Gln | Ser |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Ala | Ser | Ser | Gly | Asn | Glu | Cys | Asn | Leu | Gly | Val | Trp | Lys | Ser | Asp | Pro |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Lys | Ala | Lys | Ser | Val | Gln | Ser | Ser | Asn | Ser | Thr | Thr | Glu | Asn | Asn | Asn |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |  |  |
| Gly | Leu | Gly | Asn | Trp | Arg | Asn | Val | Ser | Gly | Gln | Asp | Arg | Ile | Gly | Pro |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Gly | Ser | Gly | Phe | Ser | Asn | Phe | Asn | Pro | Asn | Ser | Asn | Pro | Ser | Ala | Trp |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Pro | Ala | Leu | Val | Gln | Glu | Gly | Thr | Ser | Arg | Lys | Gly | Ala | Leu | Glu | Thr |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Asp | Asn | Ser | Asn | Ser | Ser | Ala | Gln | Val | Ser | Thr | Val | Gly | Gln | Thr | Ser |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Arg | Glu | Gln | Gln | Ser | Lys | Met | Glu | Asn | Ala | Gly | Val | Asn | Phe | Val | Val |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Ser | Gly | Arg | Glu | Gln | Ala | Gln | Ile | His | Asn | Thr | Asp | Gly | Pro | Lys | Asn |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Gly | Asn | Thr | Asn | Ser | Leu | Asn | Leu | Ser | Ser | Pro | Asn | Pro | Met | Glu | Asn |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Lys | Gly | Met | Pro | Phe | Gly | Met | Gly | Leu | Gly | Asn | Thr | Ser | Arg | Ser | Thr |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Asp | Ala | Pro | Ser | Gln | Ser | Thr | Gly | Asp | Arg | Lys | Thr | Gly | Ser | Val | Gly |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Ser | Trp | Gly | Ala | Ala | Arg | Gly | Pro | Ser | Gly | Thr | Asp | Thr | Val | Ser | Gly |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Gln | Ser | Asn | Ser | Gly | Asn | Asn | Gly | Asn | Asn | Gly | Lys | Glu | Arg | Glu | Asp |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Ser | Trp | Lys | Gly | Ala | Ser | Val | Gln | Lys | Ser | Thr | Gly | Ser | Lys | Asn | Asp |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Ser | Trp | Asp | Asn | Asn | Asn | Arg | Ser | Thr | Gly | Gly | Ser | Trp | Asn | Phe | Gly |  |  |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |  |  |
| Pro | Gln | Asp | Ser | Asn | Asp | Asn | Lys | Trp | Gly | Glu | Gly | Asn | Lys | Met | Thr |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Ser | Gly | Val | Ser | Gln | Gly | Glu | Trp | Lys | Gln | Pro | Thr | Gly | Ser | Asp | Glu |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Leu | Lys | Ile | Gly | Glu | Trp | Ser | Gly | Pro | Asn | Gln | Pro | Asn | Ser | Ser | Thr |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Gly | Ala | Trp | Asp | Asn | Gln | Lys | Gly | His | Pro | Leu | Leu | Glu | Asn | Gln | Gly |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Asn | Ala | Gln | Ala | Pro | Cys | Trp | Gly | Arg | Ser | Ser | Ser | Ser | Thr | Gly | Ser |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Glu | Val | Glu | Gly | Gln | Ser | Thr | Gly | Ser | Asn | His | Lys | Ala | Gly | Ser | Ser |  |  |

|                         |                     |                         |
|-------------------------|---------------------|-------------------------|
| 530                     | 535                 | 540                     |
| Asp Ser His Asn Ser Gly | Arg Arg Ser Tyr Arg | Pro Thr His Pro Asp     |
| 545                     | 550                 | 555                     |
| Cys Gln Ala Val Leu Gln | Thr Leu Leu Ser Arg | Thr Asp Leu Asp Pro     |
| 565                     | 570                 | 575                     |
| Arg Val Leu Ser Asn Thr | Gly Trp Gly Gln Thr | Gln Ile Lys Gln Asp     |
| 580                     | 585                 | 590                     |
| Thr Val Trp Asp Ile Glu | Glu Val Pro Arg Pro | Glu Gly Lys Ser Asp     |
| 595                     | 600                 | 605                     |
| Lys Gly Thr Glu Gly Trp | Glu Ser Ala Ala Thr | Gln Thr Lys Asn Ser     |
| 610                     | 615                 | 620                     |
| Gly Gly Trp Gly Asp Ala | Pro Ser Gln Ser Asn | Gln Met Lys Ser Gly     |
| 625                     | 630                 | 635                     |
| Trp Gly Glu Leu Ser Ala | Ser Thr Glu Trp Lys | Asp Pro Lys Asn Thr     |
| 645                     | 650                 | 655                     |
| Gly Gly Trp Asn Asp Tyr | Lys Asn Asn Asn Ser | Ser Asn Trp Gly Gly     |
| 660                     | 665                 | 670                     |
| Gly Arg Pro Asp Glu Lys | Thr Pro Ser Ser Trp | Asn Glu Asn Pro Ser     |
| 675                     | 680                 | 685                     |
| Lys Asp Gln Gly Trp Gly | Gly Gly Arg Gln Pro | Asn Gln Gly Trp Ser     |
| 690                     | 695                 | 700                     |
| Ser Gly Lys Asn Gly Trp | Gly Glu Glu Val Asp | Gln Thr Lys Asn Ser     |
| 705                     | 710                 | 715                     |
| Asn Trp Glu Ser Ser Ala | Ser Lys Pro Val Ser | Gly Trp Gly Glu Gly     |
| 725                     | 730                 | 735                     |
| Gly Gln Asn Glu Ile Gly | Thr Trp Gly Asn Gly | Gly Asn Ala Ser Leu     |
| 740                     | 745                 | 750                     |
| Ala Ser Lys Gly Gly Trp | Glu Asp Cys Lys Arg | Ser Pro Ala Trp Asn     |
| 755                     | 760                 | 765                     |
| Glu Thr Gly Arg Gln Pro | Asn Ser Trp Asn Lys | Gln His Gln Gln Gln     |
| 770                     | 775                 | 780                     |
| Gln Pro Pro Gln Gln Pro | Pro Pro Pro Pro Gln | Pro Glu Ala Ser Gly Ser |
| 785                     | 790                 | 795                     |
| Trp Gly Gly Pro Pro Pro | Pro Pro Pro Gly Asn | Val Arg Pro Ser Asn     |
| 805                     | 810                 | 815                     |
| Ser Ser Trp Ser Ser Gly | Pro Gln Pro Ala Thr | Pro Lys Asp Glu Glu     |
| 820                     | 825                 | 830                     |
| Pro Ser Gly Trp Glu Glu | Pro Ser Pro Gln Ser | Ile Ser Arg Lys Met     |
| 835                     | 840                 | 845                     |
| Asp Ile Asp Asp Gly Thr | Ser Ala Trp Gly Asp | Pro Asn Ser Tyr Asn     |
| 850                     | 855                 | 860                     |
| Tyr Lys Asn Val Asn Leu | Trp Asp Lys Asn Ser | Gln Gly Gly Pro Ala     |
| 865                     | 870                 | 875                     |
| Pro Arg Glu Pro Asn Leu | Pro Thr Pro Met Thr | Ser Lys Ser Ala Ser     |
| 885                     | 890                 | 895                     |
| Asp Ser Lys Ser Met Gln | Asp Gly Trp Gly Glu | Ser Asp Gly Pro Val     |
| 900                     | 905                 | 910                     |
| Thr Gly Ala Arg His Pro | Ser Trp Glu Glu Glu | Glu Asp Gly Gly Val     |
| 915                     | 920                 | 925                     |
| Trp Asn Thr Thr Gly Ser | Gln Gly Ser Ala Ser | Ser His Asn Ser Ala     |
| 930                     | 935                 | 940                     |
| Ser Trp Gly Gln Gly Gly | Lys Lys Gln Met Lys | Cys Ser Leu Lys Gly     |
| 945                     | 950                 | 955                     |
| Gly Asn Asn Asp Ser Trp | Met Asn Pro Leu Ala | Lys Gln Phe Ser Asn     |
| 965                     | 970                 | 975                     |
| Met Gly Leu Leu Ser Gln | Thr Glu Asp Asn Pro | Ser Ser Lys Met Asp     |
| 980                     | 985                 | 990                     |
| Leu Ser Val Gly Ser Leu | Ser Asp Lys Lys Phe | Asp Val Asp Lys Arg     |
| 995                     | 1000                | 1005                    |
| Ala Met Asn Leu Gly Asp | Phe Asn Asp Ile Met | Arg Lys Asp Arg Ser     |
| 1010                    | 1015                | 1020                    |
| Gly Phe Arg Pro Pro Asn | Ser Lys Asp Met Gly | Thr Thr Asp Ser Gly     |
| 1025                    | 1030                | 1035                    |
| Pro Tyr Phe Glu Lys Gly | Gly Ser His Gly Leu | Phe Gly Asn Ser Thr     |

|      |      |     |      |      |      |      |      |      |      |      |      |      |      |      |     |
|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-----|
|      | 1045 |     | 1050 |      | 1055 |      |      |      |      |      |      |      |      |      |     |
| Ala  | Gln  | Ser | Arg  | Gly  | Leu  | His  | Thr  | Pro  | Val  | Gln  | Pro  | Leu  | Asn  | Ser  | Ser |
|      | 1060 |     |      |      |      |      |      | 1065 |      |      |      |      | 1070 |      |     |
| Pro  | Ser  | Leu | Arg  | Ala  | Gln  | Val  | Pro  | Pro  | Gln  | Phe  | Ile  | Ser  | Pro  | Gln  | Val |
|      | 1075 |     |      |      |      |      | 1080 |      |      |      |      | 1085 |      |      |     |
| Ser  | Ala  | Ser | Met  | Leu  | Lys  | Gln  | Phe  | Pro  | Asn  | Ser  | Gly  | Leu  | Ser  | Pro  | Gly |
|      | 1090 |     |      |      |      | 1095 |      |      |      |      | 1100 |      |      |      |     |
| Leu  | Phe  | Asn | Val  | Gly  | Pro  | Gln  | Leu  | Ser  | Pro  | Gln  | Gln  | Ile  | Ala  | Met  | Leu |
| 1105 |      |     |      |      | 1110 |      |      |      |      | 1115 |      |      |      | 1120 |     |
| Ser  | Gln  | Leu | Pro  | Gln  | Ile  | Pro  | Gln  | Phe  | Gln  | Leu  | Ala  | Cys  | Gln  | Leu  | Leu |
|      |      |     |      | 1125 |      |      |      |      | 1130 |      |      |      | 1135 |      |     |
| Leu  | Gln  | Gln | Gln  | Gln  | Gln  | Gln  | Gln  | Leu  | Leu  | Gln  | Asn  | Gln  | Arg  | Lys  | Ile |
|      | 1140 |     |      |      |      |      | 1145 |      |      |      |      | 1150 |      |      |     |
| Ser  | Gln  | Ala | Val  | Arg  | Gln  | Gln  | Gln  | Glu  | Gln  | Gln  | Leu  | Ala  | Arg  | Met  | Val |
|      | 1155 |     |      |      |      |      | 1160 |      |      |      |      | 1165 |      |      |     |
| Ser  | Ala  | Leu | Gln  | Gln  | Gln  | Gln  | Gln  | Gln  | Gln  | Gln  | Arg  | Gln  | Pro  | Gly  | Met |
|      | 1170 |     |      |      |      | 1175 |      |      |      |      | 1180 |      |      |      |     |
| Lys  | His  | Ser | Pro  | Ser  | His  | Pro  | Val  | Gly  | Pro  | Lys  | Pro  | His  | Leu  | Asp  | Asn |
| 1185 |      |     |      |      | 1190 |      |      |      |      | 1195 |      |      |      | 1200 |     |
| Met  | Val  | Pro | Asn  | Ala  | Leu  | Asn  | Val  | Gly  | Leu  | Pro  | Asp  | Leu  | Gln  | Thr  | Lys |
|      |      |     | 1205 |      |      |      |      |      | 1210 |      |      |      | 1215 |      |     |
| Gly  | Pro  | Ile | Pro  | Gly  | Tyr  | Gly  | Ser  | Gly  | Phe  | Ser  | Ser  | Gly  | Gly  | Met  | Asp |
|      | 1220 |     |      |      |      |      | 1225 |      |      |      |      | 1230 |      |      |     |
| Tyr  | Gly  | Met | Val  | Gly  | Gly  | Lys  | Glu  | Ala  | Gly  | Thr  | Glu  | Ser  | Arg  | Phe  | Lys |
|      | 1235 |     |      |      |      |      | 1240 |      |      |      |      | 1245 |      |      |     |
| Gln  | Trp  | Thr | Ser  | Met  | Met  | Glu  | Gly  | Leu  | Pro  | Ser  | Val  | Ala  | Thr  | Gln  | Glu |
|      | 1250 |     |      |      |      | 1255 |      |      |      |      | 1260 |      |      |      |     |
| Ala  | Asn  | Met | His  | Lys  | Asn  | Gly  | Ala  | Ile  | Val  | Ala  | Pro  | Gly  | Lys  | Thr  | Arg |
| 1265 |      |     |      |      | 1270 |      |      |      |      | 1275 |      |      |      | 1280 |     |
| Gly  | Gly  | Ser | Pro  | Tyr  | Asn  | Gln  | Phe  | Asp  | Ile  | Ile  | Pro  | Gly  | Asp  | Thr  | Leu |
|      |      |     |      | 1285 |      |      |      |      | 1290 |      |      |      | 1295 |      |     |
| Gly  | Gly  | His | Thr  | Gly  | Pro  | Ala  | Gly  | Asp  | Ser  | Trp  | Leu  | Pro  | Ala  | Lys  | Ser |
|      | 1300 |     |      |      |      |      | 1305 |      |      |      |      | 1310 |      |      |     |
| Pro  | Pro  | Thr | Asn  | Lys  | Ile  | Gly  | Ser  | Lys  | Ser  | Ser  | Asn  | Ala  | Ser  | Trp  | Pro |
|      | 1315 |     |      |      |      |      | 1320 |      |      |      |      | 1325 |      |      |     |
| Pro  | Glu  | Phe | Gln  | Pro  | Gly  | Val  | Pro  | Trp  | Lys  | Gly  | Ile  | Gln  | Asn  | Ile  | Asp |
|      | 1330 |     |      |      |      | 1335 |      |      |      |      | 1340 |      |      |      |     |
| Pro  | Glu  | Ser | Asp  | Pro  | Tyr  | Val  | Thr  | Pro  | Gly  | Ser  | Val  | Leu  | Gly  | Gly  | Thr |
| 1345 |      |     |      | 1350 |      |      |      |      | 1355 |      |      |      | 1360 |      |     |
| Ala  | Thr  | Ser | Pro  | Ile  | Val  | Asp  | Thr  | Asp  | His  | Gln  | Leu  | Leu  | Arg  | Asp  | Asn |
|      |      |     | 1365 |      |      |      |      |      | 1370 |      |      |      | 1375 |      |     |
| Thr  | Thr  | Gly | Ser  | Asn  | Ser  | Ser  | Leu  | Asn  | Thr  | Ser  | Leu  | Pro  | Ser  | Pro  | Gly |
|      | 1380 |     |      |      |      |      | 1385 |      |      |      |      | 1390 |      |      |     |
| Ala  | Trp  | Pro | Tyr  | Ser  | Ala  | Ser  | Asp  | Asn  | Ser  | Phe  | Thr  | Asn  | Val  | His  | Ser |
|      | 1395 |     |      |      |      |      | 1400 |      |      |      |      | 1405 |      |      |     |
| Thr  | Ser  | Ala | Lys  | Phe  | Pro  | Asp  | Tyr  | Lys  | Ser  | Thr  | Trp  | Ser  | Pro  | Asp  | Pro |
|      | 1410 |     |      |      |      | 1415 |      |      |      |      | 1420 |      |      |      |     |
| Ile  | Gly  | His | Asn  | Pro  | Thr  | His  | Leu  | Ser  | Asn  | Lys  | Met  | Trp  | Lys  | Asn  | His |
| 1425 |      |     |      | 1430 |      |      |      |      | 1435 |      |      |      | 1440 |      |     |
| Ile  | Ser  | Ser | Arg  | Asn  | Thr  | Thr  | Pro  | Leu  | Pro  | Arg  | Pro  | Pro  | Pro  | Gly  | Leu |
|      |      |     | 1445 |      |      |      |      |      | 1450 |      |      |      | 1455 |      |     |
| Thr  | Asn  | Pro | Lys  | Pro  | Ser  | Ser  | Pro  | Trp  | Ser  | Ser  | Thr  | Ala  | Pro  | Arg  | Ser |
|      | 1460 |     |      |      |      |      | 1465 |      |      |      |      | 1470 |      |      |     |
| Val  | Arg  | Gly | Trp  | Gly  | Thr  | Gln  | Asp  | Ser  | Arg  | Leu  | Ala  | Ser  | Ala  | Ser  | Thr |
|      | 1475 |     |      |      |      |      | 1480 |      |      |      |      | 1485 |      |      |     |
| Trp  | Ser  | Asp | Gly  | Gly  | Ser  | Val  | Arg  | Pro  | Ser  | Tyr  | Trp  | Leu  | Val  | Leu  | His |
|      | 1490 |     |      |      |      | 1495 |      |      |      |      | 1500 |      |      |      |     |
| Asn  | Leu  | Thr | Pro  | Gln  | Ile  | Asp  | Gly  | Ser  | Thr  | Leu  | Arg  | Thr  | Ile  | Cys  | Met |
| 1505 |      |     |      | 1510 |      |      |      |      | 1515 |      |      |      | 1520 |      |     |
| Gln  | His  | Gly | Pro  | Leu  | Leu  | Thr  | Phe  | His  | Leu  | Asn  | Leu  | Thr  | Gln  | Gly  | Thr |
|      |      |     | 1525 |      |      |      |      |      | 1530 |      |      |      | 1535 |      |     |
| Ala  | Leu  | Ile | Arg  | Tyr  | Ser  | Thr  | Lys  | Gln  | Glu  | Ala  | Ala  | Lys  | Ala  | Gln  | Thr |
|      | 1540 |     |      |      |      |      | 1545 |      |      |      |      | 1550 |      |      |     |
| Ala  | Leu  | His | Met  | Cys  | Val  | Leu  | Gly  | Asn  | Thr  | Thr  | Ile  | Leu  | Ala  | Glu  | Phe |

|   |      |      |
|---|------|------|
| 1555  | 1560 | 1565 |
| Ala Thr Asp Asp Glu Val Ser Arg Phe Leu Ala Gln Ala Gln Pro Pro |      |      |
| 1570  | 1575 | 1580 |
| Thr Pro Ala Ala Thr Pro Ser Ala Pro Ala Ala Gly Trp Gln Ser Leu |      |      |
| 1585  | 1590 | 1595 |
| Glu Thr Gly Gln Asn Gln Ser Asp Pro Val Gly Pro Ala Leu Asn Leu |      | 1600 |
|   | 1605 | 1610 |
| Phe Gly Gly Ser Thr Gly Leu Gly Gln Trp Ser Ser Ser Ala Gly Gly |      | 1615 |
|   | 1620 | 1625 |
| Ser Ser Gly Ala Asp Leu Ala Gly Ala Ser Leu Trp Gly Pro Pro Asn |      | 1630 |
|   | 1635 | 1640 |
| Tyr Ser Ser Ser Leu Trp Gly Val Pro Thr Val Glu Asp Pro His Arg |      | 1645 |
| 1650  | 1655 | 1660 |
| Met Gly Ser Pro Ala Pro Leu Leu Pro Gly Asp Leu Leu Gly Gly Gly |      |      |
| 1665  | 1670 | 1675 |
| Ser Asp Ser Ile   |      | 1680 |
|   | 1684 |      |

<210> 3226  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

<400> 3226

|   |     |     |
|---|-----|-----|
| Val Pro Trp Lys Arg Gln Asp Glu Gln Leu Ser Leu Gln Val Glu Thr |     |     |
| 1   | 5   | 10  |
| Leu Tyr Leu Asp Ser Pro Ala Val Ile His Leu Leu Ser Pro Thr Phe |     | 15  |
|   | 20  | 25  |
| Leu Pro Pro Ser Ser Leu Pro Pro Phe Leu Gln Ile Val Asp Ser Ser |     | 30  |
|   | 35  | 40  |
| Ser Ser Ala Cys Thr Leu Asp Ser Phe Phe Pro Phe Leu Ala Pro Trp |     | 45  |
|   | 50  | 55  |
| Asp Ser Pro Gln Asp Cys Gly Phe Lys Asp His Gln Pro Leu Thr Leu |     | 60  |
| 65  | 70  | 75  |
| Gln Ala Leu Thr Val Glu Leu Ala Arg Trp Thr Leu Met Leu Leu Leu |     | 80  |
|   | 85  | 90  |
| Ser Thr Ala Met Tyr Gly Ala His Ala Pro Leu Leu Ala Leu Cys His |     | 95  |
|   | 100 | 105 |
| Val Asp Gly Arg Val Pro Phe Arg Pro Ser Ser Ala Val Leu Leu Thr |     | 110 |
|   | 115 | 120 |
| Glu Leu Thr Lys Leu Leu Leu Cys Ala Phe Ser Leu Leu Val Gly Trp |     | 125 |
|   | 130 | 135 |
| Gln Ala Trp Pro Gln Gly Pro Pro Pro Trp Arg Gln Ala Ala Pro Phe |     | 140 |
| 145   | 150 | 155 |
| Ala Leu Ser Ala Leu Leu Tyr Gly Ala Asn Asn Asn Leu Val Ile Tyr |     | 160 |
|   | 165 | 170 |
| Leu Gln Arg Tyr Met Asp Pro Ser Thr Tyr Gln Val Leu Ser Asn Leu |     | 175 |
|   | 180 | 185 |
| Lys Ile Gly Ser Thr Ala Val Leu Tyr Cys Leu Cys Leu Arg His Arg |     | 190 |
|   | 195 | 200 |
| Leu Ser Val Arg Gln Gly Leu Ala Leu Leu Leu Leu Met Ala Ala Gly |     | 205 |
|   | 210 | 215 |
| Ala Cys Tyr Ala Ala Gly Leu Gln Val Pro Gly Asn Thr Leu Pro     |     | 220 |
| 225   | 230 | 235 |
| Ser Pro Pro Pro Ala Ala Ala Ala Ser Pro Met Pro Leu His Ile Thr |     | 240 |
|   | 245 | 250 |
| Pro Leu Gly Leu Leu Leu Leu Ile Leu Tyr Cys Leu Ile Ser Gly Leu |     | 255 |
|   | 260 | 265 |
| Ser Ser Val Tyr Thr Glu Leu Leu Met Lys Arg Gln Arg Leu Pro Leu |     | 270 |
|   | 275 | 280 |
| Ala Leu Gln Asn Leu Phe Leu Tyr Thr Phe Gly Val Leu Leu Asn Leu |     | 285 |



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 290   |     | 295 |     | 300 |
| Gly Leu His Ala Gly Gly Gly Ser Gly Pro Gly Leu Leu Glu Gly Phe |     |     |     |     |
| 305   |     | 310 |     | 315 |
| Ser Gly Trp Ala Ala Leu Val Val Leu Ser Gln Ala Leu Asn Gly Leu |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Leu Met Ser Ala Val Met Lys His Gly Ser Ser Ile Thr Arg Leu Phe |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Val Val Ser Cys Ser Leu Val Val Asn Ala Val Leu Ser Ala Val Leu |     |     |     |     |
|   | 355 |     | 360 | 365 |
| Leu Arg Leu Gln Leu Thr Ala Ala Phe Phe Leu Ala Thr Leu Leu Ile |     |     |     |     |
|   | 370 | 375 |     | 380 |
| Gly Leu Ala Met Arg Leu Tyr Tyr Gly Ser Arg                     |     |     |     |     |
| 385   | 390 |     | 395 |     |

<210> 3227  
 <211> 226  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3227  |
| Arg Ser Thr Arg Ala Arg Thr Arg Arg Pro Gly Leu Arg Ala Val Pro |
| 1 5 10 15   |
| Leu Pro Val Gly Gly Phe Leu Gly Lys Met Lys Trp Val Trp Ala Leu |
| 20 25 30  |
| Leu Leu Leu Ala Ala Leu Gly Ser Gly Arg Ala Glu Arg Asp Cys Arg |
| 35 40 45  |
| Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp Lys Ala Arg Phe Ser |
| 50 55 60  |
| Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro Glu Gly Leu Phe Leu |
| 65 70 75 80   |
| Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp Glu Thr Gly Gln Met |
| 85 90 95  |
| Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu Asn Asn Trp Asp Val |
| 100 105 110   |
| Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr Glu Asp Pro Ala Lys |
| 115 120 125   |
| Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe Leu Gln Lys Gly Asn |
| 130 135 140   |
| Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp Thr Tyr Ala Val Gln |
| 145 150 155 160   |
| Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr Cys Ala Asp Ser Tyr |
| 165 170 175   |
| Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu Pro Pro Glu Ala Gln |
| 180 185 190   |
| Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys Leu Ala Arg Gln Tyr |
| 195 200 205   |
| Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly Arg Ser Glu Arg Asn |
| 210 215 220   |
| Leu Leu   |
| 225 226   |

<210> 3228  
 <211> 225  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3228  |
| Gln Gln Glu Ser Pro Ala Ala Gly Ala Ala Arg Met Asn Cys Lys Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |  |
| Gly | Thr | Asp | Ser | Ser | Cys | Gly | Cys | Arg | Gly | Asn | Asp | Glu | Lys | Lys | Met |  |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |
| Leu | Lys | Cys | Val | Val | Val | Gly | Asp | Gly | Ala | Val | Gly | Lys | Thr | Cys | Leu |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |
| Leu | Met | Ser | Tyr | Ala | Asn | Asp | Ala | Phe | Pro | Glu | Glu | Tyr | Val | Pro | Thr |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Val | Phe | Asp | His | Tyr | Ala | Val | Thr | Val | Thr | Val | Gly | Gly | Lys | Gln | His |  |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Leu | Leu | Gly | Leu | Tyr | Asp | Thr | Ala | Gly | Gln | Glu | Asp | Tyr | Asn | Gln | Leu |  |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |  |
| Arg | Pro | Leu | Ser | Tyr | Pro | Asn | Thr | Asp | Val | Phe | Leu | Ile | Cys | Phe | Ser |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Val | Val | Asn | Pro | Ala | Ser | Tyr | His | Asn | Val | Gln | Glu | Glu | Trp | Val | Pro |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Glu | Leu | Lys | Asp | Cys | Met | Pro | His | Val | Pro | Tyr | Val | Leu | Ile | Gly | Thr |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Gln | Ile | Asp | Leu | Arg | Asp | Asp | Pro | Lys | Thr | Leu | Ala | Arg | Leu | Leu | Tyr |  |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Met | Lys | Glu | Lys | Pro | Leu | Thr | Tyr | Glu | His | Gly | Val | Lys | Leu | Ala | Lys |  |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |  |
| Ala | Ile | Gly | Ala | Gln | Cys | Tyr | Leu | Glu | Cys | Ser | Ala | Leu | Thr | Gln | Lys |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Gly | Leu | Lys | Ala | Val | Phe | Asp | Glu | Ala | Ile | Leu | Thr | Ile | Phe | His | Pro |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Lys | Lys | Lys | Lys | Lys | Arg | Cys | Ser | Glu | Gly | His | Ser | Cys | Cys | Ser | Ile |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 225 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |

<210> 3229  
 <211> 232  
 <212> PRT  
 <213> Homo sapiens

<400> 3229

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Ala | Ile | Ser | Ala | Gly | Arg | Ser | Ala | Lys | Met | Gln | Leu | Lys | Pro | Met | Glu |  |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |  |
| Ile | Asn | Pro | Glu | Met | Leu | Asn | Lys | Val | Leu | Ser | Arg | Leu | Gly | Val | Ala |  |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |
| Gly | Gln | Trp | Arg | Phe | Val | Asp | Val | Leu | Gly | Leu | Glu | Glu | Glu | Ser | Leu |  |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |  |
| Gly | Ser | Val | Pro | Ala | Pro | Ala | Cys | Ala | Leu | Leu | Leu | Leu | Phe | Pro | Leu |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Thr | Ala | Gln | His | Glu | Asn | Phe | Arg | Lys | Lys | Gln | Ile | Glu | Glu | Leu | Lys |  |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Gly | Gln | Glu | Val | Ser | Pro | Lys | Val | Tyr | Phe | Met | Lys | Gln | Thr | Ile | Gly |  |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |  |
| Asn | Ser | Cys | Gly | Thr | Ile | Gly | Leu | Ile | His | Ala | Val | Ala | Asn | Asn | Gln |  |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Asp | Lys | Leu | Gly | Phe | Glu | Asp | Gly | Ser | Val | Leu | Lys | Gln | Phe | Leu | Ser |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Glu | Thr | Glu | Lys | Met | Ser | Pro | Glu | Asp | Arg | Ala | Lys | Cys | Phe | Glu | Lys |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Asn | Glu | Ala | Ile | Gln | Ala | Ala | His | Asp | Ala | Val | Ala | Gln | Glu | Gly | Gln |  |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Cys | Arg | Val | Asp | Asp | Lys | Val | Asn | Phe | His | Phe | Ile | Leu | Phe | Asn | Asn |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |  |
| Val | Asp | Gly | His | Leu | Tyr | Glu | Leu | Asp | Gly | Arg | Met | Pro | Phe | Pro | Val |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |  |  |
| Asn | His | Gly | Ala | Ser | Ser | Glu | Asp | Thr | Leu | Leu | Lys | Asp | Ala | Ala | Lys |  |  |  |

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Val Cys Arg Glu Phe Thr Glu Arg Glu Gln Gly Glu Val Arg Phe Ser |     |     |
| 210   | 215 | 220 |
| Ala Val Ala Leu Cys Lys Ala Ala                                 |     |     |
| 225   | 230 | 232 |

<210> 3230  
 <211> 398  
 <212> PRT  
 <213> Homo sapiens

<400> 3230

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asp | Ala | Ala | Thr | Thr | Ala | Cys | Ala | Pro | Pro | Asp | Trp | Phe | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Arg | Lys | Leu | Ala | Ala | Gly | Pro | Ala | Gly | Gly | Gly | Met | Leu | Pro | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Leu | Leu | Ala | Ala | Trp | Leu | Ala | Gly | Thr | Arg | Gly | Gly | Gly | Leu | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Leu | Leu | Ala | Asn | Gln | Cys | Arg | Phe | Val | Thr | Gly | Leu | Arg | Val | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ala | Gln | Gln | Ile | Ala | Gln | Leu | Tyr | Gly | Arg | Leu | Tyr | Ser | Glu | Ser |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Arg | Arg | Val | Leu | Leu | Gly | Arg | Leu | Trp | Arg | Arg | Leu | His | Gly | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Gly | His | Ala | Ser | Ala | Leu | Met | Ala | Ala | Leu | Ala | Gly | Val | Phe | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Trp | Asp | Glu | Glu | Arg | Ile | Gln | Glu | Glu | Glu | Leu | Gln | Arg | Ser | Ile | Asn |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Met | Lys | Arg | Leu | Glu | Glu | Met | Ser | Asn | Met | Phe | Gln | Ser | Ser | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Gln | His | His | Pro | Pro | Glu | Pro | Lys | Ala | Gln | Thr | Glu | Gly | Asn | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp | Ser | Glu | Gly | Lys | Glu | Gln | Arg | Trp | Glu | Met | Val | Met | Asp | Lys | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| His | Phe | Lys | Leu | Trp | Arg | Arg | Pro | Ile | Thr | Gly | Thr | His | Leu | Tyr | Gln |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Tyr | Arg | Val | Phe | Gly | Thr | Tyr | Thr | Asp | Val | Thr | Pro | Arg | Gln | Phe | Phe |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asn | Val | Gln | Leu | Asp | Thr | Glu | Tyr | Arg | Lys | Lys | Trp | Asp | Ala | Leu | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Ile | Lys | Leu | Glu | Val | Ile | Glu | Arg | Asp | Val | Val | Ser | Gly | Ser | Glu | Val |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Leu | His | Trp | Val | Thr | His | Phe | Pro | Tyr | Pro | Met | Tyr | Ser | Arg | Asp | Tyr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Val | Tyr | Val | Arg | Arg | Tyr | Ser | Val | Asp | Gln | Glu | Asn | Asn | Met | Met | Val |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Val | Ser | Arg | Ala | Val | Glu | His | Pro | Ser | Val | Pro | Glu | Ser | Pro | Glu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Phe | Val | Arg | Val | Arg | Ser | Tyr | Glu | Ser | Gln | Met | Val | Ile | Arg | Pro | His |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Lys | Ser | Phe | Asp | Glu | Asn | Gly | Phe | Asp | Tyr | Leu | Leu | Thr | Tyr | Ser | Asp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Asn | Pro | Gln | Thr | Val | Phe | Pro | Arg | Tyr | Cys | Val | Ser | Trp | Met | Val | Ser |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Ser | Gly | Met | Pro | Asp | Phe | Leu | Glu | Lys | Leu | His | Met | Ala | Thr | Leu | Lys |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |
| Ala | Lys | Asn | Met | Glu | Ile | Lys | Val | Lys | Asp | Tyr | Ile | Ser | Ala | Lys | Pro |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Leu | Glu | Met | Ser | Ser | Glu | Ala | Lys | Ala | Thr | Ser | Gln | Ser | Ser | Glu | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Lys | Asn | Glu | Gly | Ser | Cys | Gly | Pro | Ala | Arg | Ile | Glu | Tyr | Ala |     |     |

385

390

395

398

&lt;210&gt; 3231

&lt;211&gt; 509

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3231

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Pro | Glu | Pro | Pro | Glu | Ala | Gly | Ala | Ser | Ser | Pro | Cys | Ala | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Asp | Pro | Asp | Met | Ser | Phe | Arg | Lys | Val | Val | Arg | Gln | Ser | Lys | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | His | Val | Phe | Gly | Gln | Pro | Val | Lys | Asn | Asp | Gln | Cys | Tyr | Glu | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Arg | Val | Ser | Arg | Val | Thr | Trp | Asp | Ser | Thr | Phe | Cys | Ala | Val | Asn |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Pro | Lys | Phe | Leu | Ala | Val | Ile | Val | Glu | Ala | Ser | Gly | Gly | Gly | Ala | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Val | Leu | Pro | Leu | Ser | Lys | Thr | Gly | Arg | Ile | Asp | Lys | Ala | Tyr | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Val | Cys | Gly | His | Thr | Gly | Pro | Val | Leu | Asp | Ile | Asp | Trp | Cys | Pro |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| His | Asn | Asp | Glu | Val | Ile | Ala | Ser | Gly | Ser | Glu | Asp | Cys | Thr | Val | Met |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Trp | Gln | Ile | Pro | Glu | Asn | Gly | Leu | Thr | Ser | Pro | Leu | Thr | Glu | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Val | Val | Leu | Glu | Gly | His | Thr | Lys | Arg | Val | Gly | Ile | Ile | Ala | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| His | Pro | Thr | Ala | Arg | Asn | Val | Leu | Leu | Ser | Ala | Gly | Cys | Asp | Asn | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Leu | Ile | Trp | Asn | Val | Gly | Thr | Ala | Glu | Glu | Leu | Tyr | Arg | Leu | Asp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Ser | Leu | His | Pro | Asp | Leu | Ile | Tyr | Asn | Val | Ser | Trp | Asn | His | Asn | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Leu | Phe | Cys | Ser | Ala | Cys | Lys | Asp | Lys | Ser | Val | Arg | Ile | Ile | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Arg | Arg | Gly | Thr | Leu | Val | Ala | Glu | Arg | Glu | Lys | Ala | His | Glu | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ala | Arg | Pro | Met | Arg | Ala | Ile | Phe | Leu | Ala | Asp | Gly | Lys | Val | Phe | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Gly | Phe | Ser | Arg | Met | Ser | Glu | Arg | Gln | Leu | Ala | Leu | Trp | Asp | Pro |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Glu | Asn | Leu | Glu | Glu | Pro | Met | Ala | Leu | Gln | Glu | Leu | Asp | Ser | Ser | Asn |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Ala | Leu | Leu | Pro | Phe | Tyr | Asp | Pro | Asp | Thr | Ser | Val | Val | Tyr | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Cys | Gly | Lys | Gly | Asp | Ser | Ser | Ile | Arg | Tyr | Phe | Glu | Ile | Thr | Glu | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Pro | Pro | Tyr | Ile | His | Phe | Leu | Asn | Thr | Phe | Thr | Ser | Lys | Glu | Pro | Gln |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Arg | Gly | Met | Gly | Ser | Met | Pro | Lys | Arg | Gly | Leu | Glu | Val | Ser | Lys | Cys |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Ile | Ala | Arg | Phe | Tyr | Lys | Leu | His | Glu | Arg | Lys | Cys | Glu | Pro | Ile |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Val | Met | Thr | Val | Pro | Arg | Lys | Ser | Asp | Leu | Phe | Gln | Asp | Asp | Leu | Tyr |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Asp | Thr | Ala | Gly | Pro | Glu | Ala | Ala | Leu | Glu | Ala | Glu | Glu | Trp | Val |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ser | Gly | Arg | Asp | Ala | Asp | Pro | Ile | Leu | Ile | Ser | Leu | Arg | Glu | Ala | Tyr |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Val | Pro | Ser | Lys | Gln | Arg | Asp | Leu | Lys | Ile | Ser | Arg | Arg | Asn | Val | Leu |

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<210> 3232
<211> 238
<212> PRT
<213> Homo sapiens
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<210> 3233
<211> 238
<212> PRT
<213> Homo sapiens
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      <400> 3233
Arg  Leu  Arg  Glu  Asp  Asp  Arg  Arg  Gly  Leu  Pro  Leu  Ser  Ser  Pro  Leu
 1          5          10          15
Trp  Thr  Glu  Pro  Pro  Leu  Ser  Cys  Cys  Leu  Pro  Ala  Thr  Tyr  Pro  Ala

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<210> 3234
<211> 1041
<212> PRT
<213> Homo sapiens
```

4938



|                             |                         |                         |
|-----------------------------|-------------------------|-------------------------|
| 210                         | 215                     | 220                     |
| Glu Glu Glu Glu Glu Glu     | Glu Asp Glu Glu Glu Glu | Glu Glu Glu Lys Ala Ser |
| 225                         | 230                     | 235                     |
| Asn Ile Val Met Leu Arg Met | Leu Pro Gln Ala Ala Thr | Glu Asp Asp             |
| 245                         | 250                     | 255                     |
| Ile Arg Gly Gln Leu Gln Ser | His Gly Val Gln Ala Arg | Glu Val Arg             |
| 260                         | 265                     | 270                     |
| Leu Met Arg Asn Lys Ser Ser | Gly Gln Ser Arg Gly Phe | Ala Phe Val             |
| 275                         | 280                     | 285                     |
| Glu Phe Ser His Leu Gln Asp | Ala Thr Arg Trp Met Glu | Ala Asn Gln             |
| 290                         | 295                     | 300                     |
| His Ser Leu Asn Ile Leu Gly | Gln Lys Val Ser Met His | Tyr Ser Asp             |
| 305                         | 310                     | 315                     |
| Pro Lys Pro Lys Ile Asn Glu | Asp Trp Leu Cys Asn Lys | Cys Gly Val             |
| 325                         | 330                     | 335                     |
| Gln Asn Phe Lys Arg Arg Glu | Lys Cys Phe Lys Cys Gly | Val Pro Lys             |
| 340                         | 345                     | 350                     |
| Ser Glu Ala Glu Gln Lys Leu | Pro Leu Gly Thr Arg Leu | Asp Gln Gln             |
| 355                         | 360                     | 365                     |
| Thr Leu Pro Leu Gly Gly Arg | Glu Leu Ser Gln Gly Leu | Leu Pro Leu             |
| 370                         | 375                     | 380                     |
| Pro Gln Pro Tyr Gln Ala Gln | Gly Val Leu Ala Ser Gln | Ala Leu Ser             |
| 385                         | 390                     | 395                     |
| Gln Gly Ser Glu Pro Ser Ser | Glu Asn Ala Asn Asp Thr | Ile Ile Leu             |
| 405                         | 410                     | 415                     |
| Arg Asn Leu Asn Pro His Ser | Thr Met Asp Ser Ile Leu | Gly Ala Leu             |
| 420                         | 425                     | 430                     |
| Ala Pro Tyr Ala Val Leu Ser | Ser Ser Asn Val Arg Val | Ile Lys Asp             |
| 435                         | 440                     | 445                     |
| Lys Gln Thr Gln Leu Asn Arg | Gly Phe Ala Phe Ile Gln | Leu Ser Thr             |
| 450                         | 455                     | 460                     |
| Ile Glu Ala Ala Gln Leu Leu | Gln Ile Leu Gln Ala Leu | His Pro Pro             |
| 465                         | 470                     | 475                     |
| Leu Thr Ile Asp Gly Lys Thr | Ile Asn Val Glu Phe Ala | Lys Gly Ser             |
| 485                         | 490                     | 495                     |
| Lys Arg Asp Met Ala Ser Asn | Glu Gly Ser Arg Ile Ser | Ala Ala Ser             |
| 500                         | 505                     | 510                     |
| Val Ala Ser Thr Ala Ile Ala | Ala Ala Gln Trp Ala Ile | Ser Gln Ala             |
| 515                         | 520                     | 525                     |
| Ser Gln Gly Gly Glu Gly Thr | Trp Ala Thr Ser Glu Glu | Pro Pro Val             |
| 530                         | 535                     | 540                     |
| Asp Tyr Ser Tyr Tyr Gln Gln | Asp Glu Gly Tyr Gly Asn | Ser Gln Gly             |
| 545                         | 550                     | 555                     |
| Thr Glu Ser Ser Leu Tyr Ala | His Gly Tyr Leu Lys Gly | Thr Lys Gly             |
| 565                         | 570                     | 575                     |
| Pro Gly Ile Thr Gly Thr Lys | Gly Asp Pro Thr Gly Ala | Gly Pro Glu             |
| 580                         | 585                     | 590                     |
| Ala Ser Leu Glu Pro Gly Ala | Asp Ser Val Ser Met Gln | Ala Phe Ser             |
| 595                         | 600                     | 605                     |
| Arg Pro Gln Pro Gly Ala Ala | Pro Gly Ile Tyr Gln Gln | Ser Ala Glu             |
| 610                         | 615                     | 620                     |
| Ala Ser Ser Ser Gln Gly Thr | Ala Ala Asn Ser Gln Ser | Tyr Thr Ile             |
| 625                         | 630                     | 635                     |
| Met Ser Pro Ala Val Leu Lys | Ser Glu Leu Gln Ser Pro | Thr His Pro             |
| 645                         | 650                     | 655                     |
| Ser Ser Ala Leu Pro Pro Ala | Thr Ser Pro Thr Ala Gln | Glu Ser Tyr             |
| 660                         | 665                     | 670                     |
| Ser Gln Tyr Pro Val Pro Asp | Val Ser Thr Tyr Gln Tyr | Asp Glu Thr             |
| 675                         | 680                     | 685                     |
| Ser Gly Tyr Tyr Tyr Asp Pro | Gln Thr Gly Leu Tyr Tyr | Asp Pro Asn             |
| 690                         | 695                     | 700                     |
| Ser Gln Tyr Tyr Tyr Asn Ala | Gln Ser Gln Gln Tyr Leu | Tyr Trp Asp             |
| 705                         | 710                     | 715                     |
| Gly Glu Arg Arg Thr Tyr Val | Pro Ala Leu Glu Gln Ser | Ala Asp Gly             |

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<210> 3235
<211> 404
<212> PRT .
<213> Homo sapiens
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4940

|   |     |     |
|---|-----|-----|
| 100   | 105 | 110 |
| Asp Pro Ala His Gln Asp Arg His Gly Asp Thr Ala Leu His Ala Ala |     |     |
| 115   | 120 | 125 |
| Ala Arg Gln Gly Pro Asp Ala Tyr Thr Asp Phe Phe Leu Pro Leu Leu |     |     |
| 130   | 135 | 140 |
| Ser Arg Cys Pro Ser Ala Met Gly Ile Lys Asn Lys Asp Gly Glu Thr |     |     |
| 145   | 150 | 155 |
| Pro Gly Gln Ile Leu Gly Trp Gly Pro Pro Trp Asp Ser Ala Glu Glu |     |     |
| 165   | 170 | 175 |
| Glu Glu Glu Asp Asp Ala Ser Lys Glu Arg Glu Trp Arg Gln Lys Leu |     |     |
| 180   | 185 | 190 |
| Gln Gly Glu Leu Glu Asp Glu Trp Gln Glu Val Met Gly Arg Phe Glu |     |     |
| 195   | 200 | 205 |
| Gly Asp Ala Ser His Glu Thr Gln Glu Pro Glu Ser Phe Ser Ala Trp |     |     |
| 210   | 215 | 220 |
| Ser Asp Arg Leu Ala Arg Glu His Ala Gln Lys Cys Gln Gln Gln Gln |     |     |
| 225   | 230 | 235 |
| Arg Glu Ala Glu Gly Ser Cys Arg Pro Pro Arg Ala Glu Gly Ser Ser |     |     |
| 245   | 250 | 255 |
| Gln Ser Trp Arg Gln Gln Glu Glu Glu Gln Arg Leu Phe Arg Glu Arg |     |     |
| 260   | 265 | 270 |
| Ala Arg Ala Lys Glu Glu Glu Leu Arg Glu Ser Arg Ala Arg Arg Ala |     |     |
| 275   | 280 | 285 |
| Gln Glu Ala Leu Gly Asp Arg Glu Pro Lys Pro Thr Arg Ala Gly Pro |     |     |
| 290   | 295 | 300 |
| Arg Glu Glu His Pro Arg Gly Ala Gly Arg Gly Ser Leu Trp Arg Phe |     |     |
| 305   | 310 | 315 |
| Gly Asp Val Pro Trp Pro Cys Pro Gly Gly Gly Asp Pro Glu Ala Met |     |     |
| 325   | 330 | 335 |
| Ala Ala Ala Leu Val Ala Arg Gly Pro Pro Leu Glu Glu Gln Gly Ala |     |     |
| 340   | 345 | 350 |
| Leu Arg Arg Tyr Leu Arg Val Gln Gln Val Arg Trp His Pro Asp Arg |     |     |
| 355   | 360 | 365 |
| Phe Leu Gln Arg Phe Arg Ser Gln Ile Glu Thr Trp Glu Leu Gly Arg |     |     |
| 370   | 375 | 380 |
| Val Met Gly Ala Val Thr Ala Leu Ser Gln Ala Leu Asn Arg His Ala |     |     |
| 385   | 390 | 395 |
| Glu Ala Leu Lys   |     | 400 |
| 404   |     |     |

<210> 3236  
 <211> 470  
 <212> PRT  
 <213> Homo sapiens

<400> 3236  
 Gly Pro Ala Ser Gly Met Ala Glu Pro Thr Ser Asp Phe Glu Thr Pro  
 1 5 10 15  
 Ile Gly Trp His Ala Ser Pro Glu Leu Thr Pro Thr Leu Gly Pro Leu  
 20 25 30  
 Ser Asp Thr Ala Pro Pro Arg Asp Arg Trp Met Phe Trp Ala Met Leu  
 35 40 45  
 Pro Pro Pro Pro Pro Pro Leu Thr Ser Ser Leu Pro Ala Ala Gly Ser  
 50 55 60  
 Lys Pro Ser Ser Glu Ser Gln Pro Pro Met Glu Ala Gln Ser Leu Pro  
 65 70 75 80  
 Gly Ala Pro Pro Pro Phe Asp Ala Gln Ile Leu Pro Gly Ala Gln Pro  
 85 90 95  
 Pro Phe Asp Ala Gln Ser Pro Leu Asp Ser Gln Pro Gln Pro Ser Gly  
 100 105 110  
 Gln Pro Trp Asn Phe His Ala Ser Thr Ser Trp Tyr Trp Arg Gln Ser

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Ser Asp Arg Phe Pro Arg His Gln Lys Ser Leu Asn Pro Ala Val Lys |     |     |
| 130   | 135 | 140 |
| Asn Ser Tyr Tyr Pro Arg Lys Tyr Asp Ala Lys Phe Thr Asp Phe Ser |     |     |
| 145   | 150 | 155 |
| Leu Pro Pro Ser Arg Lys Gln Lys Lys Lys Arg Lys Glu Pro Val     |     |     |
| 165   | 170 | 175 |
| Phe His Phe Phe Cys Asp Thr Cys Asp Arg Gly Phe Lys Asn Gln Glu |     |     |
| 180   | 185 | 190 |
| Lys Tyr Asp Lys His Met Ser Glu His Thr Lys Cys Pro Glu Leu Asp |     |     |
| 195   | 200 | 205 |
| Cys Ser Phe Thr Ala His Glu Lys Ile Val Gln Phe His Trp Arg Asn |     |     |
| 210   | 215 | 220 |
| Met His Ala Pro Gly Met Lys Lys Ile Lys Leu Asp Thr Pro Glu Glu |     |     |
| 225   | 230 | 235 |
| Ile Ala Arg Trp Arg Glu Glu Arg Arg Lys Asn Tyr Pro Thr Leu Ala |     |     |
| 245   | 250 | 255 |
| Asn Ile Glu Arg Lys Lys Lys Leu Lys Leu Glu Lys Glu Lys Arg Gly |     |     |
| 260   | 265 | 270 |
| Ala Val Leu Thr Thr Thr Gln Tyr Gly Lys Met Lys Gly Met Ser Arg |     |     |
| 275   | 280 | 285 |
| His Ser Gln Met Ala Lys Ile Arg Ser Pro Gly Lys Asn His Lys Trp |     |     |
| 290   | 295 | 300 |
| Lys Asn Asp Asn Ser Arg Gln Arg Ala Val Thr Gly Ser Gly Ser His |     |     |
| 305   | 310 | 315 |
| Leu Cys Asp Leu Lys Leu Glu Gly Pro Pro Glu Ala Asn Ala Asp Pro |     |     |
| 325   | 330 | 335 |
| Leu Gly Val Leu Ile Asn Ser Asp Ser Glu Ser Asp Lys Glu Glu Lys |     |     |
| 340   | 345 | 350 |
| Pro Gln His Ser Val Ile Pro Lys Glu Val Thr Pro Ala Leu Cys Ser |     |     |
| 355   | 360 | 365 |
| Leu Met Ser Ser Tyr Gly Ser Leu Ser Gly Ser Glu Ser Glu Pro Glu |     |     |
| 370   | 375 | 380 |
| Glu Thr Pro Ile Lys Thr Glu Ala Asp Val Leu Ala Glu Asn Gln Val |     |     |
| 385   | 390 | 395 |
| Leu Asp Ser Ser Ala Pro Lys Ser Pro Ser Gln Asp Val Lys Ala Thr |     |     |
| 405   | 410 | 415 |
| Val Arg Asn Phe Ser Glu Ala Lys Ser Glu Asn Arg Lys Lys Ser Phe |     |     |
| 420   | 425 | 430 |
| Glu Lys Thr Asn Pro Lys Arg Glu Lys Arg Leu Ser Gln Leu Ser Asn |     |     |
| 435   | 440 | 445 |
| Val Ile Arg Thr Lys Asn Thr Pro Ser Ile Ser Leu Gly Asn Ala Ser |     |     |
| 450   | 455 | 460 |
| Ser Ser Gly His Ser Thr   |     |     |
| 465   | 470 |     |

&lt;210&gt; 3237

&lt;211&gt; 534

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3237

|   |    |    |
|---|----|----|
| Phe Val Gly Glu Gln Glu Gly Gly Cys Glu Ala Gly Ala Gly Arg Gly |    |    |
| 1   | 5  | 10 |
| Ala Gln Thr Tyr Pro Gly Glu Ala Gly Glu Arg Trp Phe Gly Arg Arg |    |    |
| 20  | 25 | 30 |
| Arg Arg Arg Gly Arg Val Val Ser Arg Lys Lys Met Ser Leu Lys Ser |    |    |
| 35  | 40 | 45 |
| Glu Arg Arg Gly Ile His Val Asp Gln Ser Asp Leu Leu Cys Lys Lys |    |    |
| 50  | 55 | 60 |
| Gly Cys Gly Tyr Tyr Gly Asn Pro Ala Trp Gln Gly Phe Cys Ser Lys |    |    |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Cys | Trp | Arg | Glu | Glu | Tyr | His | Lys | Ala | Arg | Gln | Lys | Gln | Ile | Gln | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Trp | Glu | Leu | Ala | Glu | Arg | Leu | Gln | Arg | Glu | Glu | Glu | Glu | Ala | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Ser | Ser | Gln | Ser | Ser | Gln | Gly | Ala | Gln | Ser | Leu | Thr | Phe | Ser | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Glu | Glu | Lys | Lys | Thr | Asn | Glu | Lys | Thr | Arg | Lys | Val | Thr | Thr | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Lys | Phe | Phe | Ser | Ala | Ser | Ser | Arg | Val | Gly | Ser | Lys | Lys | Glu | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Glu | Ala | Lys | Ala | Pro | Ser | Pro | Ser | Ile | Asn | Arg | Gln | Thr | Ser | Ile |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Thr | Asp | Arg | Val | Ser | Lys | Glu | Phe | Ile | Glu | Phe | Leu | Lys | Thr | Phe |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| His | Lys | Thr | Gly | Gln | Glu | Ile | Tyr | Lys | Gln | Thr | Lys | Leu | Phe | Leu | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Met | His | Tyr | Lys | Arg | Asp | Leu | Ser | Ile | Glu | Glu | Gln | Ser | Glu | Cys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Gln | Asp | Phe | Tyr | His | Asn | Val | Ala | Glu | Arg | Met | Gln | Thr | Arg | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Lys | Val | Pro | Pro | Glu | Arg | Val | Glu | Lys | Ile | Met | Asp | Gln | Ile | Glu | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Ile | Met | Thr | Arg | Leu | Tyr | Lys | Tyr | Val | Phe | Cys | Pro | Glu | Thr | Thr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asp | Asp | Glu | Lys | Lys | Asp | Leu | Ala | Ile | Gln | Lys | Arg | Ile | Arg | Ala | Leu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Trp | Val | Thr | Pro | Gln | Met | Leu | Cys | Val | Pro | Val | Asn | Glu | Asp | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Glu | Val | Ser | Asp | Met | Val | Val | Lys | Ala | Ile | Thr | Asp | Ile | Ile | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Met | Asp | Ser | Lys | Arg | Val | Pro | Arg | Asp | Lys | Leu | Ala | Cys | Ile | Thr | Lys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Cys | Ser | Lys | His | Ile | Phe | Asn | Ala | Ile | Lys | Ile | Thr | Lys | Asn | Glu | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Ser | Ala | Asp | Asp | Phe | Leu | Pro | Thr | Leu | Ile | Tyr | Ile | Val | Leu | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gly | Asn | Pro | Pro | Arg | Leu | Gln | Ser | Asn | Ile | Gln | Tyr | Ile | Thr | Arg | Phe |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Cys | Asn | Pro | Ser | Arg | Leu | Met | Thr | Gly | Glu | Asp | Gly | Tyr | Tyr | Phe | Thr |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Asn | Leu | Cys | Cys | Ala | Val | Ala | Phe | Ile | Glu | Lys | Leu | Asp | Ala | Gln | Ser |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Leu | Asn | Leu | Ser | Gln | Glu | Asp | Phe | Asp | Arg | Tyr | Met | Ser | Gly | Gln | Thr |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ser | Pro | Arg | Lys | Gln | Glu | Ala | Glu | Ser | Trp | Ser | Pro | Asp | Ala | Cys | Leu |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Gly | Val | Lys | Gln | Met | Tyr | Lys | Asn | Leu | Asp | Leu | Leu | Ser | Gln | Leu | Asn |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Glu | Arg | Gln | Glu | Arg | Ile | Met | Asn | Glu | Ala | Lys | Lys | Leu | Glu | Lys | Asp |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Leu | Ile | Asp | Trp | Thr | Asp | Gly | Ile | Ala | Arg | Glu | Val | Gln | Asp | Ile | Val |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Glu | Lys | Tyr | Pro | Leu | Glu | Ile | Lys | Pro | Pro | Asn | Gln | Pro | Leu | Ala | Ala |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Ile | Asp | Ser | Glu | Asn | Val | Glu | Asn | Asp | Lys | Leu | Pro | Pro | Pro | Leu | Gln |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Pro | Gln | Val | Tyr | Ala | Gly |     |     |     |     |     |     |     |     |     |     |
|     | 530 |     |     |     | 534 |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3238

&lt;211&gt; 308

<212> PRT  
 <213> Homo sapiens

<400> 3238  
 Val Leu Ser Val Cys Pro Thr Gly Val Phe Arg Pro Ala Pro Cys Arg  
 1 5 10 15  
 Met Ala Phe Met Lys Lys Tyr Leu Leu Pro Ile Leu Gly Leu Phe Met  
 20 25 30  
 Ala Tyr Tyr Tyr Tyr Ser Ala Asn Glu Glu Phe Arg Pro Glu Met Leu  
 35 40 45  
 Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg  
 50 55 60  
 Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr  
 65 70 75 80  
 Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu  
 85 90 95  
 Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met  
 100 105 110  
 Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly  
 115 120 125  
 Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu  
 130 135 140  
 Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe  
 145 150 155 160  
 Leu Ser Tyr Val Val Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln  
 165 170 175  
 Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala  
 180 185 190  
 Tyr Pro Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly  
 195 200 205  
 Phe Phe Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val  
 210 215 220  
 Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met  
 225 230 235 240  
 Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu  
 245 250 255  
 Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val  
 260 265 270  
 Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys  
 275 280 285  
 Arg Lys Ile Leu Glu Phe Leu Tyr Ser Thr Ser Tyr Asn Met Asp Arg  
 290 295 300  
 Phe Ile Asn Lys  
 305 308

<210> 3239  
 <211> 72  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(70)  
 <223> Xaa = any amino acid or nothing

<400> 3239  
 Glu Arg Thr Met Gln Leu Glu Ile Lys Val Ala Leu Asn Phe Ile Ile  
 1 5 10 15  
 Phe Tyr Leu Tyr Asn Lys Leu Leu Trp Gln Pro Leu Lys Lys Lys Xaa  
 20 25 30  
 Glu Ala His Trp Tyr Pro Asp Lys Pro Leu Lys Gly Ser Gly Phe His



```

      35      40      45
Thr Gly Glu Met Val Asp Pro Val Gly Glu Leu Ala Ala Lys Arg Ser
      50      55      60
Gly Leu Thr Val Glu Asp
      65      70

```

<210> 3240  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(57)  
 <223> Xaa = any amino acid or nothing

```

      <400> 3240
His Glu Ser Tyr His Val Asn Pro Asn Leu Cys Asn Pro Val Ala Pro
  1          5          10          15
Thr Ser Gly Ala His Ser Ile Gly Xaa Lys Trp Pro Ser Trp Leu Gly
      20          25          30
Ala Val Ala His Ser Cys Asn Pro Ser Thr Leu Val Gly Arg Gly Gly
      35          40          45
Arg Ile Thr Arg Gly Gln Glu Leu Arg
      50          55          57

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<210> 3241  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

```

      <400> 3241
Pro Ala Gly Ile Gly Arg Ser Thr Ala Lys Thr Pro Gly Thr Pro Gly
  1          5          10          15
Ser Leu Glu Met Glu Asn Leu Lys Ser Gly Val Tyr Pro Leu Lys Glu
      20          25          30
Ala Ser Gly Cys Pro Gly Ala Asp Arg Asn Leu Leu Val Tyr Ser Phe
      35          40          45
Tyr Glu Lys Gly Pro Leu Thr Phe Arg Asp Val Ala Ile Glu Phe Ser
      50          55          60
Leu Glu Glu Trp Gln Cys Leu Asp Thr Ala Gln Gln Asp Leu Tyr Arg
      65          70          75          80
Lys Val Met Leu Glu Asn Tyr Arg Asn Leu Val Phe Leu Ala Gly Ile
      85          90          95
Ala Val Ser Lys Pro Asp Leu Ile Thr Cys Leu Glu Gln Gly Lys Glu
      100          105          110
Pro Trp Asn Met Lys Arg His Ala Met Val Asp Gln Pro Pro Gly Arg
      115          120          125          128

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<210> 3242  
 <211> 63  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3242

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Leu | Pro | Ala | Arg | Gly | Lys | Ser | Thr | Leu | Pro | Ala | Thr | Phe | Cys | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ser | Ala | Pro | Glu | Leu | Ala | Ser | Met | Ser | Val | Val | Pro | Pro | Asn | Arg |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ser | Gln | Thr | Gly | Trp | Pro | Arg | Gly | Val | Thr | Gln | Phe | Gly | Asn | Lys | Tyr |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Ile | Gln | Gln | Thr | Lys | Pro | Leu | Thr | Leu | Glu | Arg | Thr | Ile | Asn | Leu |     |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     | 63  |     |

&lt;210&gt; 3243

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3243

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Val | Ala | Tyr | Leu | Lys | Leu | Pro | Phe | Phe | Ser | Gln | Val | Cys | Leu | Phe |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Ser | Ser | Glu | Met | Phe | Phe | Thr | Ile | Ser | Arg | Lys | Asn | Met | Ser | Gln |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Lys | Leu | Ser | Leu | Leu | Leu | Leu | Val | Phe | Gly | Leu | Ile | Trp | Gly | Leu | Met |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Leu | His | Tyr | Thr | Phe | Gln | Gln | Pro | Arg | His | Gln | Ser | Ser | Val | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Arg | Glu | Gln | Ile | Leu | Asp | Leu | Ser | Lys | Arg | Tyr | Val | Lys | Ala | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Ala | Glu | Glu | Asn | Lys | Asn | Thr | Val | Asp | Val | Glu | Asn | Gly | Ala | Ser | Met |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Gly | Tyr | Gly | Lys | Ile | Thr | Val | Glu | Tyr | Phe |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     | 107 |     |     |     |     |     |

&lt;210&gt; 3244

&lt;211&gt; 451

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3244

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Leu | Met | Asp | Gly | Arg | Met | Met | Arg | Ser | Met | Arg | Leu | Arg | Glu | Glu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Glu | Ser | Pro | Gly | Pro | Ser | His | Thr | Ala | Ser | Cys | Leu | Cys | Gly | Ser | Ala |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Pro | Cys | Ile | Leu | Cys | Ser | Cys | Cys | Pro | Ala | Ser | Arg | Asn | Ser | Thr | Val |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Arg | Leu | Ile | Phe | Thr | Phe | Phe | Leu | Phe | Leu | Gly | Val | Leu | Val | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Ile | Met | Leu | Ser | Pro | Gly | Val | Glu | Ser | Gln | Leu | Tyr | Lys | Leu | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Trp | Val | Cys | Glu | Glu | Gly | Ala | Gly | Ile | Pro | Thr | Val | Leu | Gln | Gly | His |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ile | Asp | Cys | Gly | Ser | Leu | Leu | Gly | Tyr | Arg | Ala | Val | Tyr | Arg | Met | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Ala | Thr | Ala | Ala | Phe | Phe | Phe | Phe | Phe | Thr | Leu | Leu | Met | Leu | Cys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ser | Ser | Ser | Arg | Asp | Pro | Arg | Ala | Ala | Ile | Gln | Asn | Gly | Phe | Trp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Phe | Lys | Phe | Leu | Ile | Leu | Val | Gly | Leu | Thr | Val | Gly | Ala | Phe | Tyr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Pro | Asp | Gly | Ser | Phe | Thr | Asn | Ile | Trp | Phe | Tyr | Phe | Gly | Val | Val |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Gly | Ser | Phe | Leu | Phe | Ile | Leu | Ile | Gln | Leu | Val | Leu | Leu | Ile | Asp | Phe |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ala | His | Ser | Trp | Asn | Gln | Arg | Trp | Leu | Gly | Lys | Ala | Glu | Glu | Cys | Asp |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ser | Arg | Ala | Trp | Tyr | Ala | Gly | Leu | Phe | Phe | Phe | Thr | Leu | Leu | Phe | Tyr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu | Leu | Ser | Ile | Ala | Ala | Val | Ala | Leu | Met | Phe | Met | Tyr | Tyr | Thr | Glu |  |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Pro | Ser | Gly | Cys | His | Glu | Gly | Lys | Val | Phe | Ile | Ser | Leu | Asn | Leu | Thr |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Phe | Cys | Val | Cys | Val | Ser | Ile | Ala | Ala | Val | Leu | Pro | Lys | Val | Gln | Asp |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ala | Gln | Pro | Asn | Ser | Gly | Leu | Leu | Gln | Ala | Ser | Val | Ile | Thr | Leu | Tyr |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Thr | Met | Phe | Val | Thr | Trp | Ser | Ala | Leu | Ser | Ser | Ile | Pro | Glu | Gln | Lys |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Cys | Asn | Pro | His | Leu | Pro | Thr | Gln | Leu | Gly | Asn | Glu | Thr | Val | Val | Ala |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |  |  |
| Gly | Pro | Glu | Gly | Tyr | Glu | Thr | Gln | Trp | Trp | Asp | Ala | Pro | Ser | Ile | Val |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |  |  |
| Gly | Leu | Ile | Ile | Phe | Leu | Leu | Cys | Thr | Leu | Phe | Ile | Ser | Leu | Arg | Ser |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Ser | Asp | His | Arg | Gln | Val | Asn | Ser | Leu | Met | Gln | Thr | Glu | Glu | Cys | Pro |  |  |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |  |  |
| Pro | Met | Leu | Asp | Ala | Thr | Gln | Gln | Gln | Gln | Gln | Val | Ala | Ala | Cys | Glu |  |  |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |  |  |
| Gly | Arg | Ala | Phe | Asp | Asn | Glu | Gln | Asp | Gly | Val | Thr | Tyr | Ser | Tyr | Ser |  |  |
| 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |  |  |
| Phe | Phe | His | Phe | Cys | Leu | Val | Leu | Ala | Ser | Leu | His | Val | Met | Met | Thr |  |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |
| Leu | Thr | Asn | Trp | Tyr | Lys | Pro | Gly | Glu | Thr | Arg | Lys | Met | Ile | Ser | Thr |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Trp | Thr | Ala | Val | Trp | Val | Lys | Ile | Cys | Ala | Ser | Trp | Ala | Gly | Leu | Leu |  |  |
|     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |  |  |
| Leu | Tyr | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 450 | 451 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3245  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 3245  
 Ser Ser Leu Gly Asn Glu Asp Asp Glu Ile Leu Ser Leu Ala Lys Asp  
 1 5 10 15  
 Ile Thr Gly Met Phe Val Ala Ser His Arg Lys Met Arg Ala His Gln  
 20 25 30  
 Val Leu Thr Phe Leu Leu Leu Phe Val Ile Thr Ser Val Ala Ser Glu  
 35 40 45  
 Asn Ala Ser Thr Ser Arg Gly Cys Gly Leu Asp Leu Leu Pro Gln Tyr  
 50 55 60  
 Val Ser Leu Cys Asp Leu Asp Ala Ile Trp Gly Ile Val Val Glu Ala  
 65 70 75 80  
 Ala Ala Gly Ala Gly Ala Leu Ile Thr Leu Leu Leu Met Leu Ile Leu  
 85 90 95  
 Leu Val Arg Leu Pro Phe Phe Lys Glu Lys Glu Lys Lys Ser Pro Val  
 100 105 110  
 Gly Leu His Phe Leu Phe Leu Leu Gly Thr Leu Gly Pro  
 115 120 125

<210> 3246  
 <211> 170  
 <212> PRT  
 <213> Homo sapiens

<400> 3246  
 His Glu Val Cys Gly Ser Gly Cys Cys Cys His Cys Cys Ala Gly Gly  
   1                  5                  10                  15  
 Pro Val Ala Arg Gln Lys Ala Leu Pro Arg Leu Arg Gly Val Met Ser  
                   20                  25                  30  
 Arg Phe Leu Asn Val Leu Arg Ser Trp Leu Val Met Val Ser Ile Ile  
                   35                  40                  45  
 Ala Met Gly Asn Thr Leu Gln Ser Phe Arg Asp His Thr Phe Leu Tyr  
                   50                  55                  60  
 Glu Lys Leu Tyr Thr Gly Lys Pro Asn Leu Val Asn Gly Leu Gln Ala  
   65                  70                  75                  80  
 Arg Thr Phe Gly Ile Trp Thr Leu Leu Ser Ser Val Ile Arg Cys Leu  
                   85                  90                  95  
 Cys Ala Ile Asp Ile His Asn Lys Thr Leu Tyr His Ile Thr Leu Trp  
                   100                  105                  110  
 Thr Phe Leu Leu Ala Leu Gly His Phe Leu Ser Glu Leu Phe Val Tyr  
                   115                  120                  125  
 Gly Thr Ala Ala Pro Thr Ile Gly Val Leu Ala Pro Leu Met Val Ala  
   130                  135                  140  
 Ser Phe Ser Ile Leu Gly Met Leu Val Gly Leu Arg Tyr Leu Glu Val  
  145                  150                  155                  160  
 Glu Pro Val Ser Arg Gln Lys Lys Arg Asn  
                   165                  170

<210> 3247  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 3247  
 Glu Arg Leu Cys Phe Pro Cys Met Gln Ser Lys Ile Tyr Ser Tyr Met  
   1                  5                  10                  15  
 Ser Pro Asn Lys Cys Ser Gly Met Arg Phe Pro Leu Gln Glu Glu Asn  
                   20                  25                  30  
 Ser Val Thr His His Glu Val Lys Cys Gln Gly Lys Pro Leu Ala Gly  
                   35                  40                  45  
 Ile Tyr Arg Lys Arg Glu Glu Lys Arg Asn Ala Gly Asn Ala Val Arg  
   50                  55                  60  
 Ser Ala Met Lys Ser Glu Glu Gln Lys Ile Lys Asp Ala Arg Lys Gly  
   65                  70                  75                  80  
 Pro Leu Val Pro Phe Pro Asn Gln Lys Ser Glu Ala Ala Glu Pro Pro  
                   85                  90                  95  
 Lys Thr Pro Pro Ser Ser Cys Asp Ser Thr Asn Ala Ala Ile Ala Lys  
                   100                  105                  110  
 Gln Ala Leu Lys Lys Pro Ile Lys Gly Lys Gln Ala Pro Arg Lys Lys  
                   115                  120                  125  
 Ala Gln Gly Lys Thr Gln Gln Asn Arg Lys Leu Thr Asp Phe Tyr Pro  
  130                  135                  140  
 Val Arg Arg Ser Ser Arg Lys Ser Lys Ala Glu Leu Gln Ser Glu Glu  
  145                  150                  155                  160  
 Arg Lys Arg Ile Asp Glu Leu Ile Glu Ser Gly Lys Glu Glu Gly Met  
                   165                  170                  175  
 Lys Ile Asp Leu Ile Asp Gly Lys Gly Arg Gly Val Ile Ala Thr Lys

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<210> 3248
<211> 288
<212> PRT
<213> Homo sapiens
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|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 3248 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Pro        | Gly | Ser | Thr | Ile | Ser | Cys | Ser | Glu | Leu | Lys | Gly | Thr | Gln | Cys | Arg |  |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ala        | Thr | Ala | Gly | Ser | Arg | Gly | Arg | Arg | Pro | Pro | Met | Thr | Cys | Trp | Leu |  |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Arg        | Gly | Val | Thr | Ala | Thr | Phe | Gly | Arg | Pro | Ala | Glu | Trp | Pro | Gly | Tyr |  |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Leu        | Ser | His | Leu | Cys | Gly | Arg | Ser | Ala | Ala | Met | Asp | Leu | Gly | Pro | Met |  |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Arg        | Lys | Ser | Tyr | Arg | Gly | Asp | Arg | Glu | Ala | Phe | Glu | Glu | Thr | His | Leu |  |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Thr        | Ser | Leu | Asp | Pro | Val | Lys | Gln | Phe | Ala | Ala | Trp | Phe | Glu | Glu | Ala |  |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |  |
| Val        | Gln | Cys | Pro | Asp | Ile | Gly | Glu | Ala | Asn | Ala | Met | Cys | Leu | Ala | Thr |  |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Cys        | Thr | Arg | Asp | Gly | Lys | Pro | Ser | Ala | Arg | Met | Leu | Leu | Leu | Lys | Gly |  |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Phe        | Gly | Lys | Asp | Gly | Phe | Arg | Phe | Phe | Thr | Asn | Phe | Glu | Ser | Arg | Lys |  |
|            | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Gly        | Lys | Glu | Leu | Asp | Ser | Asn | Pro | Phe | Ala | Ser | Leu | Val | Phe | Tyr | Trp |  |
| 145        |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Glu        | Pro | Leu | Asn | Arg | Gln | Val | Arg | Val | Glu | Gly | Pro | Val | Lys | Lys | Leu |  |
|            |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Pro        | Glu | Glu | Glu | Ala | Glu | Cys | Tyr | Phe | His | Ser | Arg | Pro | Lys | Ser | Ser |  |
|            |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Gln        | Ile | Gly | Ala | Val | Val | Ser | His | Gln | Ser | Ser | Val | Ile | Pro | Asp | Arg |  |
|            |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Glu        | Tyr | Leu | Arg | Lys | Lys | Asn | Glu | Glu | Leu | Glu | Gln | Leu | Tyr | Gln | Asp |  |
|            | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Gln        | Glu | Val | Pro | Lys | Pro | Lys | Ser | Trp | Gly | Gly | Tyr | Val | Leu | Tyr | Pro |  |
| 225        |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Gln        | Val | Met | Glu | Phe | Trp | Gln | Gly | Gln | Thr | Asn | Arg | Leu | His | Asp | Arg |  |
|            |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Ile        | Val | Phe | Arg | Arg | Gly | Leu | Pro | Thr | Gly | Asp | Ser | Pro | Leu | Gly | Pro |  |
|            |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Met        | Thr | His | Arg | Gly | Glu | Glu | Asp | Trp | Leu | Tyr | Glu | Arg | Leu | Ala | Pro |  |
|            |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     | 288 |  |

<210> 3249  
 <211> 389  
 <212> PRT  
 <213> Homo sapiens

<400> 3249  
 Thr Arg Val Gly Arg Gly Glu Ser Gly Leu Lys Met Glu Val Lys Pro  
 1 5 10 15  
 Pro Pro Gly Arg Pro Gln Pro Asp Ser Gly Arg Arg Arg Arg Arg Arg  
 20 25 30  
 Gly Glu Glu Gly His Asp Pro Lys Glu Pro Glu Gln Leu Arg Lys Leu  
 35 40 45  
 Phe Ile Gly Gly Leu Ser Phe Glu Thr Thr Asp Asp Ser Leu Arg Glu  
 50 55 60  
 His Phe Glu Lys Trp Gly Thr Leu Thr Asp Cys Val Val Met Arg Asp  
 65 70 75 80  
 Pro Gln Thr Lys Arg Ser Arg Gly Phe Gly Phe Val Thr Tyr Ser Cys  
 85 90 95  
 Val Glu Glu Val Asp Ala Ala Met Cys Ala Arg Pro His Lys Val Asp  
 100 105 110  
 Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser Arg Glu Asp Ser Val  
 115 120 125  
 Lys Pro Gly Ala His Leu Thr Val Lys Lys Ile Phe Val Gly Gly Ile  
 130 135 140  
 Lys Glu Asp Thr Glu Glu Tyr Asn Leu Arg Asp Tyr Phe Glu Lys Tyr  
 145 150 155 160  
 Gly Lys Ile Glu Thr Ile Glu Val Met Glu Asp Arg Gln Ser Gly Lys  
 165 170 175  
 Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp His Asp Thr Val Asp  
 180 185 190  
 Lys Ile Val Val Gln Lys Tyr His Thr Ile Asn Gly His Asn Cys Glu  
 195 200 205  
 Val Lys Lys Ala Leu Ser Lys Gln Glu Met Gln Ser Ala Gly Ser Gln  
 210 215 220  
 Arg Gly Arg Gly Gly Gly Ser Gly Asn Phe Met Gly Arg Gly Gly Asn  
 225 230 235 240  
 Phe Gly Gly Gly Gly Gly Asn Phe Gly Arg Gly Gly Asn Phe Gly Gly  
 245 250 255  
 Arg Gly Gly Tyr Gly Gly Gly Gly Gly Gly Ser Arg Gly Ser Tyr Gly  
 260 265 270  
 Gly Gly Asp Gly Gly Tyr Asn Gly Phe Gly Gly Asp Gly Gly Asn Tyr  
 275 280 285  
 Gly Gly Gly Pro Gly Tyr Ser Ser Arg Gly Gly Tyr Gly Gly Gly Gly  
 290 295 300  
 Pro Gly Tyr Gly Asn Gln Gly Gly Gly Tyr Gly Gly Gly Gly Gly Tyr  
 305 310 315 320  
 Asp Gly Tyr Asn Glu Gly Gly Asn Phe Gly Gly Gly Asn Tyr Gly Gly  
 325 330 335  
 Gly Gly Asn Tyr Asn Asp Phe Gly Asn Tyr Ser Gly Gln Gln Gln Ser  
 340 345 350  
 Asn Tyr Gly Pro Met Lys Gly Gly Ser Phe Gly Gly Arg Ser Ser Gly  
 355 360 365  
 Ser Pro Tyr Gly Gly Gly Tyr Gly Ser Gly Gly Gly Ser Gly Gly Tyr  
 370 375 380  
 Gly Ser Arg Arg Phe  
 385 389



<210> 3250  
 <211> 381  
 <212> PRT  
 <213> Homo sapiens

<400> 3250  
 Val Ala Gly Arg Gly Asp Met Ala Ala Leu Arg Asp Ala Glu Ile Gln  
 1 5 10 15  
 Lys Asp Val Gln Thr Tyr Tyr Gly Gln Val Leu Lys Arg Ser Ala Asp  
 20 25 30  
 Leu Gln Thr Asn Gly Cys Val Thr Thr Ala Arg Pro Val Pro Lys His  
 35 40 45  
 Ile Arg Glu Ala Leu Gln Asn Val His Glu Glu Val Ala Leu Arg Tyr  
 50 55 60  
 Tyr Gly Cys Gly Leu Val Ile Pro Glu His Leu Glu Asn Cys Trp Ile  
 65 70 75 80  
 Leu Asp Leu Gly Ser Gly Ser Gly Arg Asp Cys Tyr Val Leu Ser Gln  
 85 90 95  
 Leu Val Gly Glu Lys Gly His Val Thr Gly Ile Asp Met Thr Lys Gly  
 100 105 110  
 Gln Val Glu Val Ala Glu Lys Tyr Leu Asp Tyr His Met Glu Lys Tyr  
 115 120 125  
 Gly Phe Gln Ala Ser Asn Val Thr Phe Ile His Gly Tyr Ile Glu Lys  
 130 135 140  
 Leu Gly Glu Ala Gly Ile Lys Asn Glu Ser His Asp Ile Val Val Ser  
 145 150 155 160  
 Asn Cys Val Ile Asn Leu Val Pro Asp Lys Gln Gln Val Leu Gln Glu  
 165 170 175  
 Ala Tyr Arg Val Leu Lys His Gly Gly Glu Leu Tyr Phe Ser Asp Val  
 180 185 190  
 Tyr Thr Ser Leu Glu Leu Pro Glu Glu Ile Arg Thr His Lys Val Leu  
 195 200 205  
 Trp Gly Glu Cys Leu Gly Gly Ala Leu Tyr Trp Lys Glu Leu Ala Val  
 210 215 220  
 Leu Ala Gln Lys Ile Gly Phe Cys Pro Pro Arg Leu Val Thr Ala Asn  
 225 230 235 240  
 Leu Ile Thr Ile Gln Asn Lys Glu Leu Glu Arg Val Ile Gly Asp Cys  
 245 250 255  
 Arg Phe Val Ser Ala Thr Phe Arg Leu Phe Lys His Ser Lys Thr Gly  
 260 265 270  
 Pro Thr Lys Arg Cys Gln Val Ile Tyr Asn Gly Gly Ile Thr Gly His  
 275 280 285  
 Glu Lys Glu Leu Met Phe Asp Ala Asn Phe Thr Phe Lys Glu Gly Glu  
 290 295 300  
 Ile Val Glu Val Asp Glu Glu Thr Ala Ala Ile Leu Lys Asn Ser Arg  
 305 310 315 320  
 Phe Ala Gln Asp Phe Leu Ile Arg Pro Ile Gly Glu Lys Leu Pro Thr  
 325 330 335  
 Ser Gly Gly Cys Ser Ala Leu Glu Leu Lys Asp Ile Ile Thr Asp Pro  
 340 345 350  
 Phe Lys Leu Ala Glu Glu Ser Asp Ser Met Lys Ser Arg Cys Val Pro  
 355 360 365  
 Asp Ala Ala Gly Gly Cys Cys Gly Thr Lys Lys Ser Cys  
 370 375 380 381

<210> 3251  
 <211> 381  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3251

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Gly | Arg | Gly | Asp | Met | Ala | Ala | Leu | Arg | Asp | Ala | Glu | Ile | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Asp | Val | Gln | Thr | Tyr | Tyr | Gly | Gln | Val | Leu | Lys | Arg | Ser | Ala | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gln | Thr | Asn | Gly | Cys | Val | Thr | Thr | Ala | Arg | Pro | Val | Pro | Lys | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Arg | Glu | Ala | Leu | Gln | Asn | Val | His | Glu | Glu | Val | Ala | Leu | Arg | Tyr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Gly | Cys | Gly | Leu | Val | Ile | Pro | Glu | His | Leu | Glu | Asn | Cys | Trp | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Asp | Leu | Gly | Ser | Gly | Ser | Gly | Arg | Asp | Cys | Tyr | Val | Leu | Ser | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Leu | Val | Gly | Glu | Lys | Gly | His | Val | Thr | Gly | Ile | Asp | Met | Thr | Lys | Gly |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Val | Glu | Val | Ala | Glu | Lys | Tyr | Leu | Asp | Tyr | His | Met | Glu | Lys | Tyr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Phe | Gln | Ala | Ser | Asn | Val | Thr | Phe | Ile | His | Gly | Tyr | Ile | Glu | Lys |
| 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Leu | Gly | Glu | Ala | Gly | Ile | Lys | Asn | Glu | Ser | His | Asp | Ile | Val | Val | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Cys | Val | Ile | Asn | Leu | Val | Pro | Asp | Lys | Gln | Gln | Val | Leu | Gln | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |     |
| Ala | Tyr | Arg | Val | Leu | Lys | His | Gly | Gly | Glu | Leu | Tyr | Phe | Ser | Asp | Val |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Tyr | Thr | Ser | Leu | Glu | Leu | Pro | Glu | Glu | Ile | Arg | Thr | His | Lys | Val | Leu |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Trp | Gly | Glu | Cys | Leu | Gly | Gly | Ala | Leu | Tyr | Trp | Lys | Glu | Leu | Ala | Val |
| 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Leu | Ala | Gln | Lys | Ile | Gly | Phe | Cys | Pro | Pro | Arg | Leu | Val | Thr | Ala | Asn |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Ile | Thr | Ile | Gln | Asn | Lys | Glu | Leu | Glu | Arg | Val | Ile | Gly | Asp | Cys |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Arg | Phe | Val | Ser | Ala | Thr | Phe | Arg | Leu | Phe | Lys | His | Ser | Lys | Thr | Gly |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Pro | Thr | Lys | Arg | Cys | Gln | Val | Ile | Tyr | Asn | Gly | Gly | Ile | Thr | Gly | His |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Glu | Lys | Glu | Leu | Met | Phe | Asp | Ala | Asn | Phe | Thr | Phe | Lys | Glu | Gly | Glu |
| 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Ile | Val | Glu | Val | Asp | Glu | Glu | Thr | Ala | Ala | Ile | Leu | Lys | Asn | Ser | Arg |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |
| Phe | Ala | Gln | Asp | Phe | Leu | Ile | Arg | Pro | Ile | Gly | Glu | Lys | Leu | Pro | Thr |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |     |     |
| Ser | Gly | Gly | Cys | Ser | Ala | Leu | Glu | Leu | Lys | Asp | Ile | Ile | Thr | Asp | Pro |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |
| Phe | Lys | Leu | Ala | Glu | Glu | Ser | Asp | Ser | Met | Lys | Ser | Arg | Cys | Val | Pro |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Asp | Ala | Ala | Gly | Gly | Cys | Cys | Gly | Thr | Lys | Lys | Ser | Cys |     |     |     |
| 370 |     |     |     |     | 375 |     |     |     |     |     | 380 | 381 |     |     |     |

&lt;210&gt; 3252

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3252

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Leu | Gly | Ser | Asn | Thr | Ala | Pro | Ala | Leu | Arg | Val | Met | Val | Gln | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Tyr | Met | Asp | Asp | Ala | Pro | Gly | Asp | Pro | Arg | Gln | Pro | His | Arg | Pro |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asp | Pro | Gly | Arg | Pro | Val | Gly | Leu | Glu | Gln | Leu | Arg | Arg | Leu | Gly | Val |

|   |     |         |
|---|-----|---------|
| 35  | 40  | 45      |
| Leu Tyr Trp Lys Leu Asp Ala Asp Lys Tyr Glu Asn Asp Pro Glu Leu |     |         |
| 50  | 55  | 60      |
| Glu Lys Ile Arg Arg Glu Arg Asn Tyr Ser Trp Met Asp Ile Ile Thr |     |         |
| 65  | 70  | 75      |
| Ile Cys Lys Asp Lys Leu Pro Asn Tyr Glu Glu Lys Ile Lys Met Phe |     |         |
| 85  | 90  | 95      |
| Tyr Glu Glu His Leu His Leu Asp Asp Glu Ile Arg Tyr Ile Leu Asp |     |         |
| 100   | 105 | 110     |
| Gly Ser Gly Tyr Phe Asp Val Arg Asp Lys Glu Asp Gln Trp Ile Arg |     |         |
| 115   | 120 | 125     |
| Ile Phe Met Glu Lys Gly Asp Met Val Thr Leu Pro Ala Gly Ile Tyr |     |         |
| 130   | 135 | 140     |
| His Arg Phe Thr Val Asp Glu Lys Asn Tyr Thr Lys Ala Met Arg Leu |     |         |
| 145   | 150 | 155     |
| Phe Val Gly Glu Pro Val Trp Thr Ala Tyr Asn Arg Pro Ala Asp His |     |         |
| 165   | 170 | 175     |
| Phe Glu Ala Arg Gly Gln Tyr Val Lys Phe Leu Ala Gln Thr Ala     |     |         |
| 180   | 185 | 190 191 |

&lt;210&gt; 3253

&lt;211&gt; 327

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3253

|   |     |     |
|---|-----|-----|
| Ala Arg Ala Ala Ala His Cys Gly Ile Cys Arg Leu Val Arg Trp Trp |     |     |
| 1   | 5   | 10  |
| Arg Lys Arg Arg Ser Val Met Gly Ile Gln Thr Ser Pro Val Leu Leu |     |     |
| 20  | 25  | 30  |
| Ala Ser Leu Gly Val Gly Leu Val Thr Leu Leu Gly Leu Ala Val Gly |     |     |
| 35  | 40  | 45  |
| Ser Tyr Leu Val Arg Arg Ser Arg Arg Pro Gln Val Thr Leu Leu Asp |     |     |
| 50  | 55  | 60  |
| Pro Asn Glu Lys Tyr Leu Leu Arg Leu Leu Asp Lys Thr Thr Val Ser |     |     |
| 65  | 70  | 75  |
| His Asn Thr Lys Arg Phe Arg Phe Ala Leu Pro Thr Ala His His Thr |     |     |
| 85  | 90  | 95  |
| Leu Gly Leu Pro Val Gly Lys His Ile Tyr Leu Ser Thr Arg Ile Asp |     |     |
| 100   | 105 | 110 |
| Gly Ser Leu Val Ile Arg Pro Tyr Thr Pro Val Thr Ser Asp Glu Asp |     |     |
| 115   | 120 | 125 |
| Gln Gly Tyr Val Asp Leu Val Ile Lys Val Tyr Leu Lys Gly Val His |     |     |
| 130   | 135 | 140 |
| Pro Lys Phe Pro Glu Gly Gly Lys Met Ser Gln Tyr Leu Asp Ser Leu |     |     |
| 145   | 150 | 155 |
| Lys Val Gly Asp Val Val Glu Phe Arg Gly Pro Ser Gly Leu Leu Thr |     |     |
| 165   | 170 | 175 |
| Tyr Thr Gly Lys Gly His Phe Asn Ile Gln Pro Asn Lys Lys Ser Pro |     |     |
| 180   | 185 | 190 |
| Pro Glu Pro Arg Val Ala Lys Lys Leu Gly Met Ile Ala Gly Gly Thr |     |     |
| 195   | 200 | 205 |
| Gly Ile Thr Pro Met Leu Gln Leu Ile Arg Ala Ile Leu Lys Val Pro |     |     |
| 210   | 215 | 220 |
| Glu Asp Pro Thr Gln Cys Phe Leu Leu Phe Ala Asn Gln Thr Glu Lys |     |     |
| 225   | 230 | 235 |
| Asp Ile Ile Leu Arg Glu Asp Leu Glu Glu Leu Gln Ala Arg Tyr Pro |     |     |
| 245   | 250 | 255 |
| Asn Arg Phe Lys Leu Trp Phe Thr Leu Asp His Pro Pro Lys Asp Trp |     |     |
| 260   | 265 | 270 |
| Ala Tyr Ser Lys Gly Phe Val Thr Ala Asp Met Ile Arg Glu His Leu |     |     |

|                             |                                     |     |
|-----------------------------|-------------------------------------|-----|
| 275                         | 280                                 | 285 |
| Pro Ala Pro Gly Asp Asp Val | Leu Val Leu Leu Cys Gly Pro Pro Pro |     |
| 290                         | 295                                 | 300 |
| Met Val Gln Leu Ala Cys His | Pro Asn Leu Asp Lys Leu Gly Tyr Ser |     |
| 305                         | 310                                 | 315 |
| Gln Lys Met Arg Phe Thr Tyr |                                     | 320 |
|                             | 325                                 | 327 |

<210> 3254  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 3254

|   |  |
|---|--|
| Leu Gln Ser Ala Gly Glu Gly Val Thr His Val Leu Ile Leu Leu Glu |  |
| 1 5 10 15   |  |
| Ser Pro Ala Arg Pro Val Ala Ala Val Thr Gln Val Gln Arg Arg Arg |  |
| 20 25 30  |  |
| Tyr His Arg Leu Ser Asp Met Ser Met Leu Ala Glu Arg Arg Arg Lys |  |
| 35 40 45  |  |
| Gln Lys Trp Ala Val Asp Pro Gln Asn Thr Ala Trp Ser Asn Asp Asp |  |
| 50 55 60  |  |
| Ser Lys Phe Gly Gln Arg Met Leu Glu Lys Met Gly Trp Ser Lys Gly |  |
| 65 70 75 80   |  |
| Lys Gly Leu Gly Ala Gln Glu Gln Gly Ala Thr Asp His Ile Lys Val |  |
| 85 90 95  |  |
| Gln Val Lys Asn Asn His Leu Gly Leu Gly Ala Thr Ile Asn Asn Glu |  |
| 100 105 110   |  |
| Asp Asn Trp Ile Ala His Gln Asp Asp Phe Asn Gln Leu Leu Ala Glu |  |
| 115 120 125   |  |
| Leu Asn Thr Cys His Gly Gln Glu Thr Thr Asp Ser Ser Asp Lys Lys |  |
| 130 135 140   |  |
| Glu Lys Lys Ser Phe Ser Leu Glu Glu Lys Ser Lys Ile Ser Lys Asn |  |
| 145 150 155 160   |  |
| Arg Val His Tyr Met Lys Phe Thr Lys Gly Lys Asp Leu Ser Ser Arg |  |
| 165 170 175   |  |
| Ser Lys Thr Asp Leu Asp Cys Ile Phe Gly Lys Arg Gln Ser Lys Lys |  |
| 180 185 190   |  |
| Thr Pro Glu Gly Asp Ala Ser Pro Ser Thr Pro Glu Glu Asn Glu Thr |  |
| 195 200 205   |  |
| Thr Thr Thr Ser Ala Phe Thr Ile Gln Glu Tyr Phe Ala Lys Arg Met |  |
| 210 215 220   |  |
| Ala Ala Leu Lys Asn Lys Pro Gln Val Pro Val Pro Gly Ser Asp Ile |  |
| 225 230 235 240   |  |
| Ser Glu Thr Gln Val Glu Arg Lys Arg Gly Lys Lys Arg Asn Lys Glu |  |
| 245 250 255   |  |
| Ala Thr Gly Lys Asp Val Glu Ser Tyr Leu Gln Pro Lys Ala Lys Arg |  |
| 260 265 270   |  |
| His Thr Glu Gly Lys Pro Glu Arg Ala Glu Ala Gln Glu Arg Val Ala |  |
| 275 280 285   |  |
| Lys Lys Lys Ser Ala Pro Ala Glu Glu Gln Leu Arg Gly Pro Cys Trp |  |
| 290 295 300   |  |
| Asp Gln Ser Ser Lys Ala Ser Ala Gln Asp Ala Gly Asp His Val Gln |  |
| 305 310 315 320   |  |
| Pro Ala   |  |
| 322   |  |

<210> 3255  
 <211> 88

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3255

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ser | Ala | Ala | Met | Lys | Val | Lys | Ile | Lys | Cys | Trp | Asn | Gly | Val | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Trp | Leu | Trp | Val | Ala | Asn | Asp | Glu | Asn | Cys | Gly | Ile | Cys | Arg | Met |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Phe | Asn | Gly | Cys | Cys | Pro | Asp | Cys | Lys | Val | Pro | Gly | Asp | Asp | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Leu | Val | Trp | Gly | Gln | Cys | Ser | His | Cys | Phe | His | Met | His | Cys | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Lys | Trp | Leu | His | Ala | Gln | Gln | Val | Gln | Gln | His | Cys | Pro | Met | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Gln | Glu | Trp | Lys | Phe | Lys | Glu |     |     |     |     |     |     |     |     |
|     |     |     |     | 85  |     |     | 88  |     |     |     |     |     |     |     |     |

&lt;210&gt; 3256

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3256

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ala | Ala | Arg | Arg | Arg | Gln | Lys | Gly | Thr | Ala | Ala | Arg | Arg | Arg | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Gly | Thr | Leu | Glu | Glu | Val | Val | Leu | Pro | Pro | Arg | Ser | Cys | Arg | Val |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Trp | Ile | His | Ser | Gly | Thr | Thr | Met | Ser | Lys | Val | Ser | Phe | Lys | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Leu | Thr | Ser | Asp | Pro | Arg | Leu | Pro | Tyr | Lys | Val | Leu | Ser | Val | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Ser | Thr | Pro | Phe | Thr | Ala | Val | Leu | Lys | Phe | Ala | Ala | Glu | Glu | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys | Val | Pro | Ala | Ala | Thr | Ser | Ala | Ile | Ile | Thr | Asn | Asp | Gly | Ile | Gly |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ile | Asn | Pro | Ala | Gln | Thr | Ala | Gly | Asn | Val | Phe | Leu | Lys | His | Gly | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Leu | Arg | Ile | Ile | Pro | Arg | Asp | Arg | Val | Gly | Ser | Cys |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |

&lt;210&gt; 3257

&lt;211&gt; 483

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3257

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Cys | Ser | Ala | Ala | Ala | Ala | Gly | Ala | Gly | Ser | Gly | Pro | Trp | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Glu | Lys | Gln | Phe | Pro | Pro | Ala | Leu | Leu | Ser | Phe | Phe | Ile | Tyr | Asn |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Arg | Phe | Gly | Pro | Arg | Glu | Gly | Gln | Glu | Glu | Asn | Lys | Ile | Leu | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | His | Pro | Asn | Glu | Val | Glu | Lys | Asn | Glu | Lys | Ile | Arg | Asn | Val | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Cys | Glu | Ala | Ile | Val | Gln | Phe | Thr | Arg | Thr | Phe | Ser | Pro | Ser | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Ala | Lys | Ser | Leu | His | Thr | Gln | Lys | Asn | Arg | Gln | Phe | Phe | Asn | Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |  |  |
| Pro | Glu | Glu | Asn | Phe | Trp | Met | Val | Met | Val | Val | Arg | Asn | Pro | Ile | Ile |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Lys | Gln | Ser | Lys | Asp | Gly | Lys | Pro | Val | Ile | Glu | Tyr | Gln | Glu | Glu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Leu | Leu | Asp | Lys | Val | Tyr | Ser | Ser | Val | Leu | Arg | Gln | Cys | Tyr | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Met | Tyr | Lys | Leu | Phe | Asn | Gly | Thr | Phe | Leu | Lys | Ala | Met | Glu | Asp | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gly | Val | Lys | Leu | Leu | Lys | Glu | Arg | Leu | Glu | Lys | Phe | Phe | His | Arg | Tyr |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Leu | Gln | Thr | Leu | His | Leu | Gln | Ser | Cys | Asp | Leu | Leu | Asp | Ile | Phe | Gly |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Gly | Ile | Ser | Phe | Phe | Pro | Leu | Asp | Lys | Met | Thr | Tyr | Leu | Lys | Ile | Gln |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ser | Phe | Ile | Asn | Arg | Met | Glu | Glu | Ser | Leu | Asn | Ile | Val | Lys | Tyr | Thr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ala | Phe | Leu | Tyr | Asn | Asp | Gln | Leu | Ile | Trp | Ser | Gly | Leu | Glu | Gln | Asp |  |  |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     |     | 240 |  |  |
| Asp | Met | Arg | Ile | Leu | Tyr | Lys | Tyr | Leu | Thr | Thr | Ser | Leu | Phe | Pro | Arg |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| His | Ile | Glu | Pro | Glu | Leu | Ala | Gly | Arg | Asp | Ser | Pro | Ile | Arg | Ala | Glu |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Met | Pro | Gly | Asn | Leu | Gln | His | Tyr | Gly | Arg | Phe | Leu | Thr | Gly | Pro | Leu |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Asn | Leu | Asn | Asp | Pro | Asp | Ala | Lys | Cys | Arg | Phe | Pro | Lys | Ile | Phe | Val |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Asn | Thr | Asp | Asp | Thr | Tyr | Glu | Glu | Leu | His | Leu | Ile | Val | Tyr | Lys | Ala |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Met | Ser | Ala | Ala | Val | Cys | Phe | Met | Ile | Asp | Ala | Ser | Val | His | Pro | Thr |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Leu | Asp | Phe | Cys | Arg | Arg | Leu | Asp | Ser | Ile | Val | Gly | Pro | Gln | Leu | Thr |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Val | Leu | Ala | Ser | Asp | Ile | Cys | Glu | Gln | Phe | Asn | Ile | Asn | Lys | Arg | Met |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Ser | Gly | Ser | Glu | Lys | Glu | Pro | Gln | Phe | Lys | Phe | Ile | Tyr | Phe | Asn | His |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Met | Asn | Leu | Ala | Glu | Lys | Ser | Thr | Val | His | Met | Arg | Lys | Thr | Pro | Ser |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Val | Ser | Leu | Thr | Ser | Val | His | Pro | Asp | Leu | Met | Lys | Ile | Leu | Gly | Asp |  |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Ile | Asn | Ser | Asp | Phe | Thr | Arg | Val | Asp | Glu | Asp | Glu | Glu | Ile | Ile | Val |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Lys | Ala | Met | Ser | Asp | Tyr | Trp | Val | Val | Gly | Lys | Lys | Ser | Asp | Arg | Arg |  |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Glu | Leu | Tyr | Val | Ile | Leu | Asn | Gln | Lys | Asn | Ala | Asn | Leu | Ile | Glu | Val |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Asn | Glu | Glu | Val | Lys | Lys | Leu | Cys | Ala | Thr | Gln | Phe | Asn | Asn | Ile | Phe |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Phe | Leu | Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 483 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3258

&lt;211&gt; 481

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3258

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Pro | Arg | Gly | Cys | Ser | Met | Pro | His | Arg | Lys | Lys | Lys | Pro | Phe | Ile |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Glu | Lys | Lys | Lys | Ala | Val | Ser | Phe | His | Leu | Val | His | Arg | Ser | Gln | Arg |  |  |



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<210> 3259
<211> 320
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&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3259

Gln Met Glu Pro Gly Asn Asp Thr Gln Ile Ser Glu Phe Leu Leu Leu  
 1 5 10 15  
 Gly Phe Ser Gln Glu Pro Gly Leu Gln Pro Phe Leu Phe Gly Leu Phe  
 20 25 30  
 Leu Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu  
 35 40 45  
 Ala Thr Ile Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu  
 50 55 60  
 Ser Asn Leu Ser Phe Ala Asp Ile Cys Val Thr Ser Thr Thr Ile Pro  
 65 70 75 80  
 Lys Met Leu Met Asn Ile Gln Thr Gln Asn Lys Val Ile Thr Tyr Ile  
 85 90 95  
 Ala Cys Leu Met Gln Met Tyr Phe Phe Ile Leu Phe Ala Gly Phe Glu  
 100 105 110  
 Asn Phe Leu Leu Ser Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys  
 115 120 125  
 His Pro Leu His Tyr Met Val Ile Met Asn Pro His Leu Cys Gly Leu  
 130 135 140  
 Leu Val Leu Ala Ser Trp Thr Met Ser Ala Leu Tyr Ser Leu Leu Gln  
 145 150 155 160  
 Ile Leu Met Val Val Arg Leu Ser Phe Cys Thr Ala Leu Glu Ile Pro  
 165 170 175  
 His Phe Phe Cys Glu Leu Asn Gln Val Ile Gln Leu Ala Cys Ser Asp  
 180 185 190  
 Ser Phe Leu Asn His Met Val Ile Tyr Phe Thr Val Ala Leu Leu Gly  
 195 200 205  
 Gly Gly Pro Leu Thr Gly Ile Leu Tyr Ser Tyr Ser Lys Ile Ile Ser  
 210 215 220  
 Ser Ile His Ala Ile Ser Ser Ala Gln Gly Lys Tyr Lys Ala Phe Ser  
 225 230 235 240  
 Thr Cys Ala Ser His Leu Ser Val Val Ser Leu Phe Tyr Gly Ala Ile  
 245 250 255  
 Leu Gly Val Tyr Leu Ser Ser Ala Ala Thr Arg Asn Ser His Ser Ser  
 260 265 270  
 Ala Thr Ala Ser Val Met Tyr Thr Val Val Thr Pro Met Leu Asn Pro  
 275 280 285  
 Phe Ile Tyr Ser Leu Arg Asn Lys Asp Ile Lys Arg Ala Leu Gly Ile  
 290 295 300  
 His Leu Leu Trp Gly Thr Met Lys Gly Gln Phe Phe Lys Lys Cys Pro  
 305 310 315 320

&lt;210&gt; 3260

&lt;211&gt; 846

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3260

Ile Pro Phe Leu Lys Ser Cys Cys Cys Cys Cys Leu Phe Asp Phe Pro  
 1 5 10 15  
 Pro Pro Pro Leu Asp Gln Val Gln Glu Glu Glu Cys Glu Val Glu Arg  
 20 25 30  
 Val Thr Glu His Gly Thr Pro Lys Pro Phe Arg Lys Phe Asp Ser Val  
 35 40 45  
 Ala Phe Gly Glu Ser Gln Ser Glu Asp Glu Gln Phe Glu Asn Asp Leu

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Glu Thr Asp Pro Pro Asn Trp Gln Gln Leu Val Ser Arg Glu Val Leu |     |     |
| 65  | 70  | 75  |
| Leu Gly Leu Lys Pro Cys Glu Ile Lys Arg Gln Glu Val Ile Asn Glu |     | 80  |
|   | 85  | 90  |
| Leu Phe Tyr Thr Glu Arg Ala His Val Arg Thr Leu Lys Val Leu Asp |     | 95  |
|   | 100 | 105 |
| Gln Val Phe Tyr Gln Arg Val Ser Arg Glu Gly Ile Leu Ser Pro Ser |     | 110 |
|   | 115 | 120 |
| Glu Leu Arg Lys Ile Phe Ser Asn Leu Glu Asp Ile Leu Gln Leu His |     | 125 |
|   | 130 | 135 |
| Ile Gly Leu Asn Glu Gln Met Lys Ala Val Arg Lys Arg Asn Glu Thr |     | 140 |
| 145   | 150 | 155 |
| Ser Val Ile Asp Gln Ile Gly Glu Asp Leu Leu Thr Trp Phe Ser Gly |     | 160 |
|   | 165 | 170 |
| Pro Gly Glu Glu Lys Leu Lys His Ala Ala Ala Thr Phe Cys Ser Asn |     | 175 |
|   | 180 | 185 |
| Gln Pro Phe Ala Leu Glu Met Ile Lys Ser Arg Gln Lys Lys Asp Ser |     | 190 |
|   | 195 | 200 |
| Arg Phe Gln Thr Phe Val Gln Asp Ala Glu Ser Asn Pro Leu Cys Arg |     | 205 |
|   | 210 | 215 |
| Arg Leu Gln Leu Lys Asp Ile Ile Pro Thr Gln Met Gln Arg Leu Thr |     | 220 |
| 225   | 230 | 235 |
| Lys Tyr Pro Leu Leu Leu Asp Asn Ile Ala Thr Tyr Thr Glu Trp Pro |     | 240 |
|   | 245 | 250 |
| Thr Glu Arg Glu Lys Val Lys Lys Ala Ala Asp His Cys Arg Gln Ile |     | 255 |
|   | 260 | 265 |
| Leu Asn Tyr Val Asn Gln Ala Val Lys Glu Ala Glu Asn Lys Gln Arg |     | 270 |
|   | 275 | 280 |
| Leu Glu Asp Tyr Gln Arg Arg Leu Asp Thr Ser Ser Leu Lys Leu Ser |     | 285 |
|   | 290 | 295 |
| Glu Tyr Pro Asn Val Glu Glu Leu Arg Asn Leu Asp Leu Thr Lys Arg |     | 300 |
| 305   | 310 | 315 |
| Lys Met Ile His Glu Gly Pro Leu Val Trp Lys Val Asn Arg Asp Lys |     | 320 |
|   | 325 | 330 |
| Thr Ile Asp Leu Tyr Thr Leu Leu Leu Glu Asp Ile Leu Val Leu Leu |     | 335 |
|   | 340 | 345 |
| Gln Lys Gln Asp Asp Arg Leu Val Leu Arg Cys His Ser Lys Ile Leu |     | 350 |
|   | 355 | 360 |
| Ala Ser Thr Ala Asp Ser Lys His Thr Phe Ser Pro Val Ile Lys Leu |     | 365 |
|   | 370 | 375 |
| Ser Thr Val Leu Val Arg Gln Val Ala Thr Asp Asn Lys Ala Leu Phe |     | 380 |
| 385   | 390 | 395 |
| Val Ile Ser Met Ser Asp Asn Gly Ala Gln Ile Tyr Glu Leu Val Ala |     | 400 |
|   | 405 | 410 |
| Gln Thr Val Ser Glu Lys Thr Val Trp Gln Asp Leu Ile Cys Arg Met |     | 415 |
|   | 420 | 425 |
| Ala Ala Ser Val Lys Glu Gln Ser Thr Lys Pro Ile Pro Leu Pro Gln |     | 430 |
|   | 435 | 440 |
| Ser Thr Pro Gly Glu Gly Asp Asn Asp Glu Glu Asp Pro Ser Lys Leu |     | 445 |
|   | 450 | 455 |
| Lys Glu Glu Gln His Gly Ile Ser Val Thr Gly Leu Gln Ser Pro Asp |     | 460 |
| 465   | 470 | 475 |
| Arg Asp Leu Gly Leu Glu Ser Thr Leu Ile Ser Ser Lys Pro Gln Ser |     | 480 |
|   | 485 | 490 |
| His Ser Leu Ser Thr Ser Gly Lys Ser Glu Val Arg Asp Leu Phe Val |     | 495 |
|   | 500 | 505 |
| Ala Glu Arg Gln Phe Ala Lys Glu Gln His Thr Asp Gly Thr Leu Lys |     | 510 |
|   | 515 | 520 |
| Glu Val Gly Glu Asp Tyr Gln Ile Ala Ile Pro Asp Ser His Leu Pro |     | 525 |
|   | 530 | 535 |
| Val Ser Glu Glu Arg Trp Ala Leu Asp Ala Leu Arg Asn Leu Gly Leu |     | 540 |
| 545   | 550 | 555 |
| Leu Lys Gln Leu Leu Val Gln Gln Leu Gly Leu Thr Glu Lys Ser Val |     | 560 |

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<211> 700
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| Ala        | Val | Glu | Phe | Ala | Glu | Gly | Ala | Leu | Thr | Met | Ala | Pro | Trp | Pro | Glu |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu        | Gly | Asp | Ala | Gln | Pro | Asn | Pro | Asp | Lys | Tyr | Leu | Glu | Gly | Ala | Ala |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly        | Gln | Gln | Pro | Thr | Ala | Pro | Asp | Lys | Ser | Lys | Glu | Thr | Asn | Lys | Thr |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp        | Asn | Thr | Glu | Ala | Pro | Val | Thr | Lys | Ile | Glu | Leu | Leu | Pro | Ser | Tyr |
|            | 50  |     |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Ser        | Thr | Ala | Thr | Leu | Ile | Asp | Glu | Pro | Thr | Glu | Val | Asp | Asp | Pro | Trp |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn        | Leu | Pro | Thr | Leu | Gln | Asp | Ser | Gly | Ile | Lys | Trp | Ser | Glu | Arg | Asp |
|            |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr        | Lys | Gly | Lys | Ile | Leu | Cys | Phe | Phe | Gln | Gly | Ile | Gly | Arg | Leu | Ile |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu        | Leu | Leu | Gly | Phe | Leu | Tyr | Phe | Phe | Val | Cys | Ser | Leu | Asp | Ile | Leu |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser        | Ser | Ala | Phe | Gln | Leu | Val | Gly | Gly | Lys | Met | Ala | Gly | Gln | Phe | Phe |
|            | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Ser        | Asn | Ser | Ser | Ile | Met | Ser | Asn | Pro | Leu | Leu | Gly | Leu | Val | Ile | Gly |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |     |
| Val | Leu | Val | Thr | Val | Leu | Val | Gln | Ser | Ser | Ser | Thr | Ser | Ile |     |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     | 175 |     |     |
| Val | Val | Ser | Met | Val | Ser | Ser | Ser | Leu | Leu | Thr | Val | Arg | Ala | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |
| Pro | Ile | Ile | Met | Gly | Ala | Asn | Ile | Gly | Thr | Ser | Ile | Thr | Asn | Ile |
|     |     |     | 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Val | Ala | Leu | Met | Gln | Val | Gly | Asp | Arg | Ser | Glu | Phe | Arg | Arg | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |
| Ala | Gly | Ala | Thr | Val | His | Asp | Phe | Phe | Asn | Trp | Leu | Ser | Val | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Leu | Leu | Pro | Val | Glu | Val | Ala | Thr | His | Tyr | Leu | Glu | Ile | Ile | Gln |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |
| Leu | Ile | Val | Glu | Ser | Phe | His | Phe | Lys | Asn | Gly | Glu | Asp | Ala | Pro |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |     |     |
| Leu | Leu | Lys | Val | Ile | Thr | Lys | Pro | Phe | Thr | Lys | Leu | Ile | Val | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     | Leu |
| Asp | Lys | Lys | Val | Ile | Ser | Gln | Ile | Ala | Met | Asn | Asp | Glu | Lys | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     | Lys |
| Asn | Lys | Ser | Leu | Val | Lys | Ile | Trp | Cys | Lys | Thr | Phe | Thr | Asn | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | Thr |
| Gln | Ile | Asn | Val | Thr | Val | Pro | Ser | Thr | Ala | Asn | Cys | Thr | Ser | Pro |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |
| Leu | Cys | Trp | Thr | Asp | Gly | Ile | Gln | Asn | Trp | Thr | Met | Lys | Asn | Val |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     | Thr |
| Tyr | Lys | Glu | Asn | Ile | Ala | Lys | Cys | Gln | His | Ile | Phe | Val | Asn | Phe |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     | His |
| Leu | Pro | Asp | Leu | Ala | Val | Gly | Thr | Ile | Leu | Leu | Ile | Leu | Ser | Leu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     | Leu |
| Val | Leu | Cys | Gly | Cys | Leu | Ile | Met | Ile | Val | Lys | Ile | Leu | Gly | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | Val |
| Leu | Lys | Gly | Gln | Val | Ala | Thr | Val | Ile | Lys | Lys | Thr | Ile | Asn | Thr |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | Asp |
| Phe | Pro | Phe | Pro | Phe | Ala | Trp | Leu | Thr | Gly | Tyr | Leu | Ala | Ile | Leu |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 | Val |
| Gly | Ala | Gly | Met | Thr | Phe | Ile | Val | Gln | Ser | Ser | Ser | Val | Phe | Thr |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     | Ser |
| Ala | Leu | Thr | Pro | Leu | Ile | Gly | Ile | Gly | Val | Ile | Thr | Ile | Glu | Arg |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     | Ala |
| Tyr | Pro | Leu | Thr | Leu | Gly | Ser | Asn | Ile | Gly | Thr | Thr | Thr | Thr | Ala |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | Ile |
| Leu | Ala | Ala | Leu | Ala | Ser | Pro | Gly | Asn | Ala | Leu | Arg | Ser | Ser | Leu |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | Gln |
| Ile | Ala | Leu | Cys | His | Phe | Phe | Phe | Asn | Ile | Ser | Gly | Ile | Leu | Leu |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |     | Trp |
| Tyr | Pro | Ile | Pro | Phe | Thr | Arg | Leu | Pro | Ile | Arg | Met | Ala | Lys | Gly |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     | Leu |
| Gly | Asn | Ile | Ser | Ala | Lys | Tyr | Arg | Trp | Phe | Ala | Val | Phe | Tyr | Leu |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     | Ile |
| Ile | Phe | Phe | Phe | Leu | Ile | Pro | Leu | Thr | Val | Phe | Gly | Leu | Ser | Leu |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | Ala |
| Gly | Trp | Arg | Val | Leu | Val | Gly | Val | Gly | Val | Pro | Val | Val | Phe | Ile |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | Ile |
| Ile | Leu | Val | Leu | Cys | Leu | Arg | Leu | Leu | Gln | Ser | Arg | Cys | Pro | Arg |
|     |     |     | 580 |     |     |     |     |     | 585 |     |     |     | 590 | Val |
| Leu | Pro | Lys | Lys | Leu | Gln | Asn | Trp | Asn | Phe | Leu | Pro | Leu | Trp | Met |
|     |     | 595 |     |     |     | 600 |     |     |     |     |     | 605 |     | Arg |
| Ser | Leu | Lys | Pro | Trp | Asp | Ala | Val | Val | Ser | Lys | Phe | Thr | Gly | Cys |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     | Phe |
| Gln | Met | Arg | Cys | Cys | Cys | Cys | Cys | Arg | Val | Cys | Cys | Arg | Ala | Cys |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     | Cys |
| Leu | Leu | Cys | Gly | Cys | Pro | Lys | Cys | Cys | Arg | Cys | Ser | Lys | Cys | Glu |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     |     |
| Asp | Leu | Glu | Glu | Ala | Gln | Glu | Gly | Gln | Asp | Val | Pro | Val | Lys | Ala |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | Pro |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |  |  |
| Glu | Thr | Phe | Asp | Asn | Ile | Thr | Ile | Ser | Arg | Glu | Ala | Gln | Gly | Glu | Val |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Pro | Ala | Ser | Asp | Ser | Lys | Thr | Glu | Cys | Thr | Ala | Leu |     |     |     |     |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |

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<400> 3262

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| Ser | Gln | Gln | Gly | Ser | Gln | Pro | His | Arg | Gln | Gly | Pro | Pro | Ser | Leu | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Thr | Ala | Pro | His | Ser | Leu | Asp | Leu | Pro | Ala | Leu | Pro | Pro | Gly | Pro | Arg |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gly | Ser | Gln | Gly | Lys | Leu | Arg | Arg | Val | Leu | Val | Pro | Met | Ser | Val | Lys |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Ser | Trp | Gly | Pro | Gly | Pro | Ser | Glu | Gly | Val | Thr | Ala | Val | Pro | Thr |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Asp | Leu | Gly | Glu | Ile | His | Asn | Trp | Thr | Glu | Leu | Leu | Asp | Leu | Phe |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Asn | His | Thr | Leu | Ser | Glu | Cys | His | Val | Glu | Leu | Ser | Gln | Ser | Thr | Lys |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Arg | Val | Val | Leu | Phe | Ala | Leu | Tyr | Leu | Ala | Met | Phe | Val | Val | Gly | Leu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Val | Glu | Asn | Leu | Leu | Val | Ile | Cys | Val | Asn | Trp | Arg | Gly | Ser | Gly | Arg |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Gly | Leu | Met | Asn | Leu | Tyr | Ile | Leu | Asn | Met | Ala | Ile | Ala | Asp | Leu |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Gly | Ile | Val | Leu | Ser | Leu | Pro | Val | Trp | Met | Leu | Glu | Val | Thr | Leu | Asp |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Tyr | Thr | Trp | Leu | Trp | Gly | Ser | Phe | Ser | Cys | Arg | Phe | Thr | His | Tyr | Phe |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Tyr | Phe | Val | Asn | Met | Tyr | Ser | Ser | Ile | Phe | Phe | Leu | Val | Cys | Leu | Ser |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Val | Asp | Arg | Tyr | Val | Thr | Leu | Thr | Ser | Ala | Ser | Pro | Ser | Trp | Gln | Arg |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Tyr | Gln | His | Arg | Val | Arg | Arg | Ala | Met | Cys | Ala | Gly | Ile | Trp | Val | Leu |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Ser | Ala | Ile | Ile | Pro | Leu | Pro | Glu | Val | Val | His | Ile | Gln | Leu | Val | Glu |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Pro | Glu | Pro | Met | Cys | Leu | Phe | Met | Ala | Pro | Phe | Glu | Thr | Tyr | Ser |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Thr | Trp | Ala | Leu | Ala | Val | Ala | Leu | Ser | Thr | Thr | Ile | Leu | Gly | Phe | Leu |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Leu | Pro | Phe | Pro | Leu | Ile | Thr | Val | Phe | Asn | Val | Leu | Thr | Ala | Cys | Arg |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Leu | Arg | Gln | Pro | Gly | Gln | Pro | Lys | Ser | Arg | Arg | His | Cys | Leu | Leu | Leu |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Cys | Ala | Tyr | Val | Ala | Val | Phe | Val | Met | Cys | Trp | Leu | Pro | Tyr | His | Val |  |  |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Thr | Leu | Leu | Leu | Leu | Thr | Leu | His | Gly | Thr | His | Ile | Ser | Leu | His | Cys |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| His | Leu | Val | His | Leu | Leu | Tyr | Phe | Phe | Tyr | Asp | Val | Ile | Asp | Cys | Phe |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Ser | Met | Leu | His | Cys | Val | Ile | Asn | Pro | Ile | Leu | Tyr | Asn | Phe | Leu | Ser |  |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Pro | His | Phe | Arg | Gly | Arg | Leu | Leu | Asn | Ala | Val | Val | His | Tyr | Leu | Pro |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Lys | Asp | Gln | Thr | Lys | Ala | Gly | Thr | Cys | Ala | Ser | Ser | Ser | Ser | Cys | Ser |  |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |
| Thr | Gln | His | Ser | Ile | Ile | Ile | Thr | Lys | Gly | Asp | Ser | Gln | Pro | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |
| Ala | Ala | Pro | His | Pro | Glu | Pro | Ser | Leu | Ser | Phe | Gln | Ala | His | His |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 | Leu |
| Leu | Pro | Asn | Thr | Ser | Pro | Ile | Ser | Pro | Thr | Gln | Pro | Leu | Thr | Pro |
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| Gln | Ala | Arg | Ser | Pro | Ser | Val | Ala | Ala | Met | Ala | Ser | Pro | Gln | Leu | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ala | Leu | Val | Ser | Ala | Gln | Trp | Val | Ala | Glu | Ala | Leu | Arg | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ala | Gly | Gln | Pro | Leu | Gln | Leu | Leu | Asp | Ala | Ser | Trp | Tyr | Leu | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Lys | Leu | Gly | Arg | Asp | Ala | Arg | Arg | Glu | Phe | Glu | Glu | Arg | His | Ile | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Ala | Ala | Phe | Phe | Asp | Ile | Asp | Gln | Cys | Ser | Asp | Arg | Thr | Ser | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Tyr | Asp | His | Met | Leu | Pro | Gly | Ala | Glu | His | Phe | Ala | Glu | Tyr | Ala | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Leu | Gly | Val | Gly | Ala | Ala | Thr | His | Val | Val | Ile | Tyr | Asp | Ala | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Gln | Gly | Leu | Tyr | Ser | Ala | Pro | Arg | Val | Trp | Trp | Met | Phe | Arg | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Gly | His | His | Ala | Val | Ser | Leu | Leu | Asp | Gly | Gly | Leu | Arg | His | Trp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Arg | Gln | Asn | Leu | Pro | Leu | Ser | Ser | Gly | Lys | Ser | Gln | Pro | Ala | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Glu | Phe | Arg | Ala | Gln | Leu | Asp | Pro | Ala | Phe | Ile | Lys | Thr | Tyr | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Ile | Lys | Glu | Asn | Leu | Glu | Ser | Arg | Arg | Phe | Gln | Val | Val | Asp | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Ala | Thr | Gly | Arg | Phe | Arg | Gly | Thr | Glu | Pro | Glu | Pro | Arg | Asp | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ile | Glu | Pro | Gly | His | Ile | Pro | Gly | Thr | Val | Asn | Ile | Pro | Phe | Thr | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Phe | Leu | Ser | Gln | Glu | Gly | Leu | Glu | Lys | Ser | Pro | Glu | Glu | Ile | Arg | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Phe | Gln | Glu | Lys | Lys | Val | Asp | Leu | Ser | Lys | Pro | Leu | Val | Ala | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Cys | Gly | Ser | Gly | Val | Thr | Ala | Cys | His | Val | Ala | Leu | Gly | Ala | Tyr | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Cys | Gly | Lys | Pro | Asp | Val | Pro | Ile | Tyr | Asp | Gly | Ser | Trp | Val | Glu | Trp |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Tyr | Met | Arg | Ala | Arg | Pro | Glu | Asp | Val | Ile | Ser | Glu | Gly | Arg | Gly | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | His |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 305 | 306 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3264  
 <211> 466

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3264

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Arg | Ser | Thr | Pro | Arg | Thr | Ala | Pro | Arg | Ala | Ser | Ala | Thr | Arg |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser | Ala | Ala | Gly | Thr | Met | Arg | Glu | Ile | Val | His | Ile | Gln | Ala | Gly | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Cys | Gly | Asn | Gln | Ile | Gly | Ala | Lys | Phe | Trp | Glu | Val | Ile | Ser | Asp | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| His | Gly | Ile | Asp | Pro | Thr | Gly | Ser | Tyr | His | Gly | Asp | Ser | Asp | Leu | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Glu | Arg | Ile | Asn | Val | Tyr | Tyr | Asn | Glu | Ala | Ala | Gly | Asn | Lys | Tyr |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Val | Pro | Arg | Ala | Ile | Leu | Val | Asp | Leu | Glu | Pro | Gly | Thr | Met | Asp | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Arg | Ser | Gly | Pro | Phe | Gly | Gln | Ile | Phe | Arg | Pro | Asp | Asn | Phe | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Gly | Gln | Ser | Gly | Ala | Gly | Asn | Asn | Trp | Ala | Lys | Gly | His | Tyr | Thr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gly | Ala | Glu | Leu | Val | Asp | Ser | Val | Leu | Asp | Val | Val | Arg | Lys | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Glu | Ser | Cys | Asp | Cys | Leu | Gln | Gly | Phe | Gln | Leu | Thr | His | Ser | Leu |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Gly | Gly | Thr | Gly | Ser | Gly | Met | Gly | Thr | Leu | Leu | Ile | Ser | Lys | Ile |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Glu | Glu | Tyr | Pro | Asp | Arg | Ile | Met | Asn | Thr | Phe | Ser | Val | Met | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Ser | Pro | Lys | Val | Ser | Asp | Thr | Val | Val | Glu | Pro | Tyr | Asn | Ala | Thr | Leu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Val | His | Gln | Leu | Val | Glu | Asn | Thr | Asp | Glu | Thr | Tyr | Ser | Ile | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asn | Glu | Ala | Leu | Tyr | Asp | Ile | Cys | Phe | Arg | Thr | Leu | Lys | Leu | Thr | Thr |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Thr | Tyr | Gly | Asp | Leu | Asn | His | Leu | Val | Ser | Ala | Thr | Met | Ser | Gly |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Thr | Thr | Cys | Leu | Arg | Phe | Pro | Gly | Gln | Leu | Asn | Ala | Asp | Leu | Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Lys | Leu | Ala | Val | Asn | Met | Val | Pro | Phe | Pro | Arg | Leu | His | Phe | Phe | Met |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Pro | Gly | Phe | Ala | Pro | Leu | Thr | Ser | Arg | Gly | Ser | Gln | Gln | Tyr | Arg | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Thr | Val | Pro | Glu | Leu | Thr | Gln | Gln | Met | Phe | Asp | Ser | Lys | Asn | Met |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Met | Ala | Ala | Cys | Asp | Pro | Arg | His | Gly | Arg | Tyr | Leu | Thr | Val | Ala | Ala |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Phe | Arg | Gly | Arg | Met | Ser | Met | Lys | Glu | Val | Asp | Glu | Gln | Met | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |
| Asn | Val | Gln | Asn | Lys | Asn | Ser | Ser | Tyr | Phe | Val | Glu | Trp | Ile | Pro | Asn |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Asn | Val | Lys | Thr | Ala | Val | Cys | Asp | Ile | Pro | Pro | Arg | Gly | Leu | Lys | Met |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ser | Ala | Thr | Phe | Ile | Gly | Asn | Ser | Thr | Ala | Ile | Gln | Glu | Leu | Phe | Lys |
|     | 385 |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Ile | Ser | Glu | Gln | Phe | Thr | Ala | Met | Phe | Arg | Arg | Lys | Ala | Phe | Leu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| His | Trp | Tyr | Thr | Gly | Glu | Gly | Met | Asp | Glu | Met | Glu | Phe | Thr | Glu | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Glu | Ser | Asn | Met | Asn | Asp | Leu | Val | Ser | Glu | Tyr | Gln | Gln | Tyr | Gln | Asp |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ala | Thr | Ala | Asp | Glu | Gln | Gly | Glu | Phe | Glu | Glu | Glu | Glu | Gly | Glu | Asp |
|     | 450 |     |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |
| Glu | Ala |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

465 466

<210> 3265  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 3265  
 Trp Trp Glu Asp Ala Arg Val Leu Gly Pro Phe His Pro Glu Glu Glu  
 1 5 10 15  
 Gly His Trp Val Met Thr Pro Ser Glu Gly Ala Arg Ala Gly Thr Gly  
 20 25 30  
 Arg Glu Leu Glu Met Leu Asp Ser Leu Leu Ala Leu Gly Gly Leu Val  
 35 40 45  
 Leu Leu Arg Asp Ser Val Glu Trp Glu Gly Arg Ser Leu Leu Lys Ala  
 50 55 60  
 Leu Val Lys Lys Ser Ala Leu Cys Gly Glu Gln Val His Ile Leu Gly  
 65 70 75 80  
 Cys Glu Val Ser Glu Glu Glu Phe Arg Glu Gly Phe Asp Ser Asp Ile  
 85 90 95  
 Asn Asn Arg Leu Val Tyr His Asp Phe Phe Arg Asp Pro Leu Asn Trp  
 100 105 110  
 Ser Lys Thr Glu Glu Ala Phe Pro Gly Gly Pro Leu Gly Ala Leu Arg  
 115 120 125  
 Ala Met Cys Lys Arg Thr Asp Pro Val Pro Val Thr Ile Ala Leu Asp  
 130 135 140  
 Ser Leu Ser Trp Leu Leu Arg Leu Pro Cys Thr Thr Leu Cys Gln  
 145 150 155 160  
 Val Leu His Ala Val Ser His Gln Asp Ser Cys Pro Gly Glu Thr Pro  
 165 170 175  
 Pro Ser Leu Phe Pro Leu Ile His Leu Pro Leu Pro Arg Ser Val Pro  
 180 185 190  
 Leu Phe Leu Ser Thr Leu Glu  
 195 199

<210> 3266  
 <211> 294  
 <212> PRT  
 <213> Homo sapiens

<400> 3266  
 Ala Ala Gly Ala Gly Ala Asp Gly Arg Glu Pro Ala Ser Glu Arg Ala  
 1 5 10 15  
 Ser Arg Ala Glu Pro Pro Ala Val Ala Met Gly Gln Asn Asp Leu Met  
 20 25 30  
 Gly Thr Ala Glu Asp Phe Ala Asp Gln Phe Leu Arg Val Thr Lys Gln  
 35 40 45  
 Tyr Leu Pro His Val Ala Arg Leu Cys Leu Ile Ser Thr Phe Leu Glu  
 50 55 60  
 Asp Gly Ile Arg Met Trp Phe Gln Trp Ser Glu Gln Arg Asp Tyr Ile  
 65 70 75 80  
 Asp Thr Thr Trp Asn Cys Gly Tyr Leu Leu Ala Ser Ser Phe Val Phe  
 85 90 95  
 Leu Asn Leu Leu Gly Gln Leu Thr Gly Cys Val Leu Val Leu Ser Arg  
 100 105 110  
 Asn Phe Val Gln Tyr Ala Cys Phe Gly Leu Phe Gly Ile Ile Ala Leu  
 115 120 125  
 Gln Thr Ile Ala Tyr Ser Ile Leu Trp Asp Leu Lys Phe Leu Met Arg

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 130   |     | 135 |     | 140 |
| Asn Leu Ala Leu Gly Gly Gly Leu Leu Leu Leu Leu Ala Glu Ser Arg |     |     |     |     |
| 145   |     | 150 |     | 155 |
| Ser Glu Gly Lys Ser Met Phe Ala Gly Val Pro Thr Met Arg Glu Ser |     |     |     |     |
|   | 165 |     | 170 | 175 |
| Ser Pro Lys Gln Tyr Met Gln Leu Gly Gly Arg Val Leu Leu Val Leu |     |     |     |     |
|   | 180 |     | 185 | 190 |
| Met Phe Met Thr Leu Leu His Phe Asp Ala Ser Phe Phe Ser Ile Val |     |     |     |     |
|   | 195 |     | 200 | 205 |
| Gln Asn Ile Val Gly Thr Ala Leu Met Ile Leu Val Ala Ile Gly Phe |     |     |     |     |
|   | 210 |     | 215 | 220 |
| Lys Thr Lys Leu Ala Ala Leu Thr Leu Val Val Trp Leu Phe Ala Ile |     |     |     |     |
| 225   |     | 230 |     | 235 |
| Asn Val Tyr Phe Asn Ala Phe Trp Thr Ile Pro Val Tyr Lys Pro Met |     |     |     |     |
|   | 245 |     | 250 | 255 |
| His Asp Phe Leu Lys Tyr Asp Phe Phe Gln Thr Met Ser Val Ile Gly |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Gly Leu Leu Leu Val Val Ala Leu Gly Pro Gly Gly Val Ser Met Asp |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Glu Lys Lys Lys Glu Trp   |     |     |     |     |
| 290   |     | 294 |     |     |

<210> 3267  
 <211> 70  
 <212> PRT  
 <213> Homo sapiens

|   |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
|---|----|--|---|--|----|----|----|--|----|----|----|----|--|--|
| <400> 3267  |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
| Ala Ser Thr Phe Cys Ser Ala Trp Lys Arg Arg Ser Thr Ala Ala Leu |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
| 1   |    |  | 5 |  |    |    | 10 |  |    |    |    | 15 |  |  |
| Trp Trp Ser Gly Ser Arg Ala Ser Arg Ser His Pro Arg Glu Leu Gly |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
|   | 20 |  |   |  |    | 25 |    |  |    |    | 30 |    |  |  |
| Pro Leu Cys Phe Val Phe Gly Thr Ala Ala Leu Ser Ile Arg Ser Met |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
|   | 35 |  |   |  | 40 |    |    |  |    | 45 |    |    |  |  |
| Asp Val Leu Ser Leu Phe Leu Glu His Gly Lys Leu Val Phe Ala Ser |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
|   | 50 |  |   |  | 55 |    |    |  | 60 |    |    |    |  |  |
| Gly Leu Ser Pro Arg Ala   |    |  |   |  |    |    |    |  |    |    |    |    |  |  |
| 65  |    |  |   |  | 70 |    |    |  |    |    |    |    |  |  |

<210> 3268  
 <211> 63  
 <212> PRT  
 <213> Homo sapiens

|   |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
|---|----|--|---|--|----|----|----|----|----|--|----|----|--|--|
| <400> 3268  |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
| Glu Asp Ala Trp Ile Thr Asn Pro Ser Leu Ser Asn Ala Arg Ser Thr |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
| 1   |    |  | 5 |  |    |    | 10 |    |    |  |    | 15 |  |  |
| Pro Ser Lys Pro Leu Cys Tyr Thr Val Leu Lys Glu Gly Gln Val Val |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
|   | 20 |  |   |  |    | 25 |    |    |    |  | 30 |    |  |  |
| Gly Val Lys Thr Thr Lys Ala Ser Asn Thr Arg Glu Lys Leu Arg Pro |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
|   | 35 |  |   |  | 40 |    |    |    | 45 |  |    |    |  |  |
| Glu Ser Glu Arg Arg Met Val Lys Ser Phe Gly Asp Glu Val Thr     |    |  |   |  |    |    |    |    |    |  |    |    |  |  |
|   | 50 |  |   |  | 55 |    |    | 60 |    |  | 63 |    |  |  |

<210> 3269  
 <211> 264

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3269

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ser | Thr | His | Ala | Ser | Gly | Ala | Arg | Pro | Ser | Leu | Lys | Arg | Ala | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gln | Arg | Gly | Arg | Pro | Leu | Pro | Ser | Arg | Ala | Leu | Pro | Ser | Ala | His |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Asp | Met | Thr | Thr | Asn | Ala | Gly | Pro | Leu | His | Pro | Tyr | Trp | Pro | Gln |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Leu | Arg | Leu | Asp | Asn | Phe | Val | Pro | Asn | Asp | Arg | Pro | Thr | Trp | His |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ile | Leu | Ala | Gly | Leu | Phe | Ser | Val | Thr | Gly | Val | Leu | Val | Val | Thr | Thr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Trp | Leu | Leu | Ser | Gly | Arg | Ala | Ala | Val | Val | Pro | Leu | Gly | Thr | Trp | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Leu | Ser | Leu | Cys | Trp | Phe | Ala | Val | Cys | Gly | Phe | Ile | His | Leu | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Ile | Glu | Gly | Trp | Phe | Val | Leu | Tyr | Tyr | Glu | Asp | Leu | Leu | Gly | Asp | Gln |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ala | Phe | Leu | Ser | Gln | Leu | Trp | Lys | Glu | Tyr | Ala | Lys | Gly | Asp | Ser | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Ile | Leu | Gly | Asp | Asn | Phe | Thr | Val | Cys | Met | Glu | Thr | Ile | Thr | Ala |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Cys | Leu | Trp | Gly | Pro | Leu | Ser | Leu | Trp | Val | Val | Ile | Ala | Phe | Leu | Arg |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln | His | Pro | Leu | Arg | Phe | Ile | Leu | Gln | Leu | Val | Val | Ser | Val | Gly | Gln |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Ile | Tyr | Gly | Asp | Val | Leu | Tyr | Phe | Leu | Thr | Glu | His | Arg | Asp | Gly | Phe |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | His | Gly | Glu | Leu | Gly | His | Pro | Leu | Tyr | Phe | Trp | Phe | Tyr | Phe | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Phe | Met | Asn | Ala | Leu | Trp | Leu | Val | Leu | Pro | Gly | Val | Leu | Val | Leu | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ala | Val | Lys | His | Leu | Thr | His | Ala | Gln | Ser | Thr | Leu | Asp | Ala | Lys | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Thr | Lys | Ala | Lys | Ser | Lys | Lys | Asn |     |     |     |     |     |     |     |     |
|     |     | 260 |     |     |     |     | 264 |     |     |     |     |     |     |     |     |

&lt;210&gt; 3270

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3270

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asp | Thr | Gly | Pro | Gln | Ile | Leu | Met | Ser | Tyr | Leu | Asp | Ser | Val | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Lys | Leu | Leu | Gln | Met | Val | Lys | Lys | Leu | Ser | Gln | Ser | Phe | Cys | Ser |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Phe | Lys | Tyr | Leu | Thr | Lys | Tyr | Ser | Arg | Lys | Gln | Val | Ser | Asp | Glu |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Lys | Lys | Ser | Arg | Arg | Thr | Val | Glu | Ser | Asn | Pro | Ile | Phe | Phe | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Lys | Asn | Lys | Lys | Ile | Gln |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3271

&lt;211&gt; 44

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3271

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Gln | Ser | Gly | Leu | Ser | Leu | Cys | Phe | Ala | Asp | Leu | Ser | Glu | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Gly | Arg | Ala | Gly | Val | Pro | Gly | Cys | Pro | His | Ser | Cys | Asp | Gly | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ser | Gly | Arg | Pro | Cys | Ser | Pro | Ser | Ser | Ala | Gly |     |     |     |     |
|     |     |     | 35  |     |     |     | 40  |     |     |     | 44  |     |     |     |     |

&lt;210&gt; 3272

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3272

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Gln | Phe | Ile | Gln | Ile | Glu | Leu | Leu | Asn | Ile | Leu | Gln | Ser | Leu | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Asn | Gln | Thr | Gln | Ser | Pro | Tyr | Asn | Thr | Thr | Ala | Tyr | Pro | Ala | Ile |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Val | Ile | Thr | Ile | Leu | Pro | Phe | Ser | Phe | Ser | Cys | Phe | Phe | Ile |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Thr | Lys | Cys | Phe | Gly | Leu | Ser | Ile | Phe | Pro | Ser | Val | Ile | Phe | Phe |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | His | Val | Tyr | Phe | Ile | Leu | Thr | Leu | Val | Val | Phe | Tyr | Cys | Cys |     |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 79  |     |

&lt;210&gt; 3273

&lt;211&gt; 501

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3273

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ala | Trp | Ser | Leu | Gln | Val | Ala | Leu | Ser | Pro | Phe | Phe | Phe | Pro | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Pro | Ser | Asn | Ser | Phe | Ala | Ala | Ala | Val | Pro | Gln | Leu | Leu | Phe | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Leu | Pro | Leu | Pro | His | Val | Pro | Gly | Gln | Glu | Ser | Ala | Lys | Arg | Arg |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ala | Arg | Arg | Phe | Leu | Ile | Met | Ser | Glu | Leu | Thr | Lys | Glu | Leu | Met |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Leu | Val | Trp | Gly | Thr | Lys | Ser | Ser | Pro | Gly | Leu | Ser | Asp | Thr | Ile |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Phe | Cys | Arg | Trp | Thr | Gln | Gly | Phe | Val | Phe | Ser | Glu | Ser | Glu | Gly | Ser |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Leu | Glu | Gln | Phe | Glu | Gly | Gly | Pro | Cys | Ala | Val | Ile | Ala | Pro | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Ala | Phe | Leu | Leu | Lys | Lys | Leu | Leu | Phe | Ser | Ser | Glu | Lys | Ser | Ser |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Arg | Asp | Cys | Ser | Gln | Glu | Glu | Gln | Lys | Glu | Leu | Leu | Cys | His | Thr |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Cys | Asp | Ile | Leu | Glu | Ser | Ala | Cys | Cys | Asp | His | Ser | Gly | Ser | Tyr |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |
| Cys | Leu | Val | Ser | Trp | Leu | Arg | Gly | Lys | Thr | Thr | Glu | Glu | Thr | Ala | Ser |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ile | Ser | Gly | Ser | Pro | Ala | Glu | Ser | Ser | Cys | Gln | Val | Glu | His | Ser | Ser |



```
<210> 3274
<211> 390
<212> PRT
<213> Homo sapiens
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|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 3274 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Arg        | Val | Val | His | Arg | Phe | Phe | Lys | Ser | Ser | Ala | Phe | Trp | Pro | Ala | Glu |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val        | Lys | Gln | Pro | Arg | Gly | Gly | Pro | Lys | Thr | Gly | Ser | Arg | Lys | Glu | Gly |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala        | Gly | Ser | Arg | Ala | Pro | Gln | Pro | Val | Val | Arg | Ser | Phe | Cys | Gly | Ser |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val        | Gly | Ala | Glu | Gly | Arg | Met | Glu | Lys | Leu | Arg | Leu | Leu | Gly | Leu | Arg |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr        | Gln | Glu | Tyr | Val | Thr | Arg | His | Pro | Ala | Ala | Thr | Ala | Gln | Leu | Glu |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr        | Ala | Val | Arg | Gly | Phe | Ser | Tyr | Leu | Leu | Ala | Gly | Arg | Phe | Ala | Asp |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser        | His | Glu | Leu | Ser | Glu | Leu | Val | Tyr | Ser | Ala | Ser | Asn | Leu | Leu | Val |

```
<210> 3275
<211> 61
<212> PRT
<213> Homo sapiens
```

```
<210> 3276
<211> 84
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 3276

Lys Ala Ala Gly His Arg Leu Leu Leu Ala Ala Gly His Pro Ser Met  
 1 5 10 15  
 Pro Ser Ser Asp Cys Leu Leu Trp Glu Gly Ser Leu Glu Leu Arg Pro  
 20 25 30  
 Leu Gln His Ile Ser Ser Leu Leu Val Leu Val Ser Thr Thr Cys Leu  
 35 40 45  
 Phe Ala Phe Pro Arg Val Pro Ile Ala Phe Glu Ser Lys Ser Cys Leu  
 50 55 60  
 Ile Tyr His Cys His Cys Ala Phe Thr Val Arg His Tyr Met Cys Ser  
 65 70 75 80  
 Ser His Thr Gly  
 84

&lt;210&gt; 3277

&lt;211&gt; 737

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3277

Lys Leu Gly Val Glu Pro Glu Glu Glu Gly Gly Gly Asp Asp Glu Glu  
 1 5 10 15  
 Asp Ala Glu Ala Trp Ala Met Glu Leu Ala Asp Val Gly Ala Ala Ala  
 20 25 30  
 Ser Ser Gln Gly Val His Asp Gln Val Leu Pro Thr Pro Asn Ala Ser  
 35 40 45  
 Ser Arg Val Ile Val His Val Asp Leu Asp Cys Phe Tyr Ala Gln Val  
 50 55 60  
 Glu Met Ile Ser Asn Pro Glu Leu Lys Asp Lys Pro Leu Gly Val Gln  
 65 70 75 80  
 Gln Lys Tyr Leu Val Val Thr Cys Asn Tyr Glu Ala Arg Lys Leu Gly  
 85 90 95  
 Val Lys Lys Leu Met Asn Val Arg Asp Ala Lys Glu Lys Cys Pro Gln  
 100 105 110  
 Leu Val Leu Val Asn Gly Glu Asp Leu Thr Arg Tyr Arg Glu Met Ser  
 115 120 125  
 Tyr Lys Val Thr Glu Leu Leu Glu Glu Phe Ser Pro Val Val Glu Arg  
 130 135 140  
 Leu Gly Phe Asp Glu Asn Phe Val Asp Leu Thr Glu Met Val Glu Lys  
 145 150 155 160  
 Arg Leu Gln Gln Leu Gln Ser Asp Glu Leu Ser Ala Val Thr Val Ser  
 165 170 175  
 Gly His Val Tyr Asn Asn Gln Ser Ile Asn Leu Leu Asp Val Leu His  
 180 185 190  
 Ile Arg Leu Leu Val Gly Ser Gln Ile Ala Ala Glu Met Arg Glu Ala  
 195 200 205  
 Met Tyr Asn Gln Leu Gly Leu Thr Gly Cys Ala Gly Val Ala Ser Asn  
 210 215 220  
 Lys Leu Leu Ala Lys Leu Val Ser Gly Val Phe Lys Pro Asn Gln Gln  
 225 230 235 240  
 Thr Val Leu Leu Pro Glu Ser Cys Gln His Leu Ile His Ser Leu Asn  
 245 250 255  
 His Ile Lys Glu Ile Pro Gly Ile Gly Tyr Lys Thr Ala Lys Cys Leu  
 260 265 270  
 Glu Ala Leu Gly Ile Asn Ser Val Arg Asp Leu Gln Thr Phe Ser Pro  
 275 280 285  
 Lys Ile Leu Glu Lys Glu Leu Gly Ile Ser Val Ala Gln Arg Ile Gln  
 290 295 300  
 Lys Leu Ser Phe Gly Glu Asp Asn Ser Pro Val Ile Leu Ser Gly Pro  
 305 310 315 320  
 Pro Gln Ser Phe Ser Glu Glu Asp Ser Phe Lys Lys Cys Ser Ser Glu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |  |  |
| Val | Glu | Ala | Lys | Asn | Lys | Ile | Glu | Glu | Leu | Leu | Ala | Ser | Leu | Leu | Asn |  |  |  |  |
|     |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |  |  |  |  |
| Arg | Leu | Cys | Gln | Asp | Glu | Arg | Lys | Pro | His | Thr | Val | Arg | Leu | Ile | Ile |  |  |  |  |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     |     |  |  |  |  |
| Arg | Arg | Tyr | Ser | Ser | Glu | Lys | His | Tyr | Gly | Arg | Glu | Ser | Arg | Gln | Cys |  |  |  |  |
|     |     |     | 370 |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |  |
| Pro | Ile | Pro | Ser | His | Val | Ile | Gln | Lys | Leu | Gly | Thr | Gly | Asn | Tyr | Asp |  |  |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |  |  |
| Val | Met | Thr | Pro | Met | Val | Asp | Ile | Leu | Met | Lys | Leu | Phe | Arg | Asn | Met |  |  |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |  |  |
| Val | Asn | Val | Lys | Met | Pro | Phe | His | Leu | Thr | Leu | Leu | Ser | Val | Cys | Phe |  |  |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |  |  |
| Cys | Asn | Leu | Lys | Ala | Leu | Asn | Thr | Ala | Lys | Lys | Gly | Leu | Ile | Asp | Tyr |  |  |  |  |
|     |     |     | 435 |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |  |  |
| Tyr | Leu | Met | Pro | Ser | Leu | Ser | Thr | Thr | Ser | Arg | Ser | Gly | Lys | His | Ser |  |  |  |  |
|     |     |     | 450 |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |  |  |
| Phe | Lys | Met | Lys | Asp | Thr | His | Met | Glu | Asp | Phe | Pro | Lys | Asp | Lys | Glu |  |  |  |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     |     | 480 |  |  |  |  |
| Thr | Asn | Arg | Asp | Phe | Leu | Pro | Ser | Gly | Arg | Ile | Glu | Ser | Thr | Arg | Thr |  |  |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |  |  |
| Arg | Glu | Ser | Pro | Leu | Asp | Thr | Thr | Asn | Phe | Ser | Lys | Glu | Lys | Asp | Ile |  |  |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |  |  |
| Asn | Glu | Phe | Pro | Leu | Cys | Ser | Leu | Pro | Glu | Gly | Val | Asp | Gln | Glu | Val |  |  |  |  |
|     |     |     | 515 |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |  |  |
| Phe | Lys | Gln | Leu | Pro | Val | Asp | Ile | Gln | Glu | Glu | Ile | Leu | Ser | Gly | Lys |  |  |  |  |
|     |     |     | 530 |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |  |  |
| Ser | Arg | Glu | Lys | Phe | Gln | Gly | Lys | Gly | Ser | Val | Ser | Cys | Pro | Leu | His |  |  |  |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |  |  |  |
| Ala | Ser | Arg | Gly | Val | Leu | Ser | Phe | Phe | Ser | Lys | Lys | Gln | Met | Gln | Asp |  |  |  |  |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     |     | 575 |     |  |  |  |  |
| Ile | Pro | Ile | Asn | Pro | Arg | Asp | His | Leu | Ser | Ser | Ser | Lys | Gln | Val | Ser |  |  |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |  |  |
| Ser | Val | Ser | Pro | Cys | Glu | Pro | Gly | Thr | Ser | Gly | Phe | Asn | Ser | Ser | Ser |  |  |  |  |
|     |     |     | 595 |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |  |  |
| Ser | Ser | Tyr | Met | Ser | Ser | Gln | Lys | Asp | Tyr | Ser | Tyr | Tyr | Leu | Asp | Asn |  |  |  |  |
|     |     |     | 610 |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |  |  |
| Arg | Leu | Lys | Asp | Glu | Arg | Ile | Ser | Gln | Gly | Pro | Lys | Glu | Pro | Gln | Gly |  |  |  |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     |     |     | 640 |  |  |  |  |
| Phe | His | Phe | Thr | Asn | Ser | Asn | Pro | Ala | Val | Ser | Ala | Phe | His | Ser | Phe |  |  |  |  |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     |     |     | 655 |     |  |  |  |  |
| Pro | Asn | Leu | Gln | Ser | Glu | Gln | Leu | Phe | Ser | Arg | Asn | His | Thr | Thr | Asp |  |  |  |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |  |  |
| Ser | His | Lys | Gln | Thr | Val | Ala | Thr | Asp | Ser | His | Glu | Gly | Leu | Thr | Glu |  |  |  |  |
|     |     |     | 675 |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |  |  |
| Asn | Arg | Glu | Pro | Asp | Ser | Val | Asp | Glu | Lys | Ile | Thr | Phe | Pro | Ser | Asp |  |  |  |  |
|     |     |     | 690 |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |  |  |
| Ile | Asp | Pro | Gln | Val | Phe | Tyr | Glu | Leu | Pro | Glu | Ala | Val | Gln | Lys | Glu |  |  |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |  |  |
| Leu | Leu | Ala | Glu | Trp | Lys | Arg | Thr | Gly | Ser | Asp | Phe | His | Ile | Gly | His |  |  |  |  |
|     |     |     |     | 725 |     |     |     | 730 |     |     |     |     | 735 |     |     |  |  |  |  |
| Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
| 737 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |

<210> 3278  
 <211> 292  
 <212> PRT  
 <213> Homo sapiens

<400> 3278  
 Gly Leu Arg Leu His Val Asp Leu Val Glu Lys Pro Arg Thr Gly Ile

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Met Ala Ala Glu Thr Arg Asn Val Ala Gly Ala Glu Ala Pro Pro Pro |     |     |     |
| 20  | 25  | 30  |     |
| Gln Lys Arg Tyr Tyr Arg Gln Arg Ala His Ser Asn Pro Met Ala Asp |     |     |     |
| 35  | 40  | 45  |     |
| His Thr Leu Arg Tyr Pro Val Lys Pro Glu Glu Met Asp Trp Ser Glu |     |     |     |
| 50  | 55  | 60  |     |
| Leu Tyr Pro Glu Phe Phe Ala Pro Leu Thr Gln Asn Gln Ser His Asp |     |     |     |
| 65  | 70  | 75  | 80  |
| Asp Pro Lys Asp Lys Lys Glu Lys Arg Ala Gln Ala Gln Val Glu Phe |     |     |     |
| 85  | 90  | 95  |     |
| Ala Asp Ile Gly Cys Gly Tyr Gly Gly Leu Leu Val Glu Leu Ser Pro |     |     |     |
| 100   | 105 | 110 |     |
| Leu Phe Pro Asp Thr Leu Ile Leu Gly Leu Glu Ile Arg Val Lys Val |     |     |     |
| 115   | 120 | 125 |     |
| Ser Asp Tyr Val Gln Asp Arg Ile Arg Ala Leu Arg Ala Ala Pro Ala |     |     |     |
| 130   | 135 | 140 |     |
| Gly Gly Phe Gln Asn Ile Ala Cys Leu Arg Ser Asn Ala Met Lys His |     |     |     |
| 145   | 150 | 155 | 160 |
| Leu Pro Asn Phe Phe Tyr Lys Gly Gln Leu Thr Lys Met Phe Phe Leu |     |     |     |
| 165   | 170 | 175 |     |
| Phe Pro Asp Pro His Phe Lys Arg Thr Lys His Lys Trp Arg Ile Ile |     |     |     |
| 180   | 185 | 190 |     |
| Ser Pro Thr Leu Leu Ala Glu Tyr Ala Tyr Val Leu Arg Val Gly Gly |     |     |     |
| 195   | 200 | 205 |     |
| Leu Val Tyr Thr Ile Thr Asp Val Leu Glu Leu His Asp Trp Met Cys |     |     |     |
| 210   | 215 | 220 |     |
| Thr His Phe Glu Glu His Pro Leu Phe Glu Arg Val Pro Leu Glu Asp |     |     |     |
| 225   | 230 | 235 | 240 |
| Leu Ser Glu Asp Pro Val Val Gly His Leu Gly Thr Ser Thr Glu Glu |     |     |     |
| 245   | 250 | 255 |     |
| Gly Lys Lys Val Leu Arg Asn Gly Gly Lys Asn Phe Pro Ala Ile Phe |     |     |     |
| 260   | 265 | 270 |     |
| Arg Arg Ile Gln Asp Pro Val Leu Gln Ala Val Thr Ser Gln Thr Ser |     |     |     |
| 275   | 280 | 285 |     |
| Leu Pro Gly His   |     |     |     |
| 290   | 292 |     |     |

&lt;210&gt; 3279

&lt;211&gt; 949

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3279

|   |     |     |    |
|---|-----|-----|----|
| Thr Arg Thr Lys Arg Arg Leu Gly Arg Glu Lys Ala Met Ala Ser Pro |     |     |    |
| 1   | 5   | 10  | 15 |
| Pro Arg Gly Trp Gly Cys Gly Glu Leu Leu Leu Pro Phe Met Leu Leu |     |     |    |
| 20  | 25  | 30  |    |
| Gly Thr Leu Cys Glu Pro Gly Ser Gly Gln Ile Arg Tyr Ser Met Pro |     |     |    |
| 35  | 40  | 45  |    |
| Glu Glu Leu Asp Lys Gly Ser Phe Val Gly Asn Ile Ala Lys Asp Leu |     |     |    |
| 50  | 55  | 60  |    |
| Gly Leu Glu Pro Gln Glu Leu Ala Glu Arg Gly Val Arg Ile Val Ser |     |     |    |
| 65  | 70  | 75  | 80 |
| Arg Gly Arg Thr Gln Leu Phe Ala Leu Asn Pro Arg Ser Gly Ser Leu |     |     |    |
| 85  | 90  | 95  |    |
| Val Thr Ala Gly Arg Ile Asp Arg Glu Glu Leu Cys Ala Gln Ser Pro |     |     |    |
| 100   | 105 | 110 |    |
| Leu Cys Val Val Asn Phe Asn Ile Leu Val Glu Asn Lys Met Lys Ile |     |     |    |
| 115   | 120 | 125 |    |
| Tyr Gly Val Glu Val Glu Ile Ile Asp Ile Asn Asp Asn Phe Pro Arg |     |     |    |

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Phe Arg Asp Glu Glu Leu Lys Val Lys Val Asn Glu Asn Ala Ala Ala |     |     |
| 145   | 150 | 155 |
| Gly Thr Arg Leu Val Leu Pro Phe Ala Arg Asp Ala Asp Val Gly Val |     | 160 |
|   | 165 | 170 |
| Asn Ser Leu Arg Ser Tyr Gln Leu Ser Ser Asn Leu His Phe Ser Leu |     | 175 |
|   | 180 | 185 |
| Asp Val Val Ser Gly Thr Asp Gly Gln Lys Tyr Pro Glu Leu Val Leu |     | 190 |
|   | 195 | 200 |
| Glu Gln Pro Leu Asp Arg Glu Lys Glu Thr Val His Asp Leu Leu Leu |     | 205 |
|   | 210 | 215 |
| Thr Ala Leu Asp Gly Gly Asp Pro Val Leu Ser Gly Thr Thr His Ile |     | 220 |
| 225   | 230 | 235 |
| Arg Val Thr Val Leu Asp Ala Asn Asp Asn Ala Pro Leu Phe Thr Pro |     | 240 |
|   | 245 | 250 |
| Ser Glu Tyr Ser Val Ser Val Pro Glu Asn Ile Pro Val Gly Thr Arg |     | 255 |
|   | 260 | 265 |
| Leu Leu Met Leu Thr Ala Thr Asp Pro Asp Glu Gly Ile Asn Gly Lys |     | 270 |
|   | 275 | 280 |
| Leu Thr Tyr Ser Phe Arg Asn Glu Glu Glu Lys Ile Ser Glu Thr Phe |     | 285 |
|   | 290 | 295 |
| Gln Leu Asp Ser Asn Leu Gly Glu Ile Ser Thr Leu Gln Ser Leu Asp |     | 300 |
| 305   | 310 | 315 |
| Tyr Glu Glu Ser Arg Phe Tyr Leu Met Glu Val Val Ala Gln Asp Gly |     | 320 |
|   | 325 | 330 |
| Gly Ala Leu Val Ala Ser Ala Lys Val Val Val Thr Val Gln Asp Val |     | 335 |
|   | 340 | 345 |
| Asn Asp Asn Ala Pro Glu Val Ile Leu Thr Ser Leu Thr Ser Ser Ile |     | 350 |
|   | 355 | 360 |
| Ser Glu Asp Cys Leu Pro Gly Thr Val Ile Ala Leu Phe Ser Val His |     | 365 |
|   | 370 | 375 |
| Asp Gly Asp Ser Gly Glu Asn Gly Glu Ile Ala Cys Ser Ile Pro Arg |     | 380 |
| 385   | 390 | 395 |
| Asn Leu Pro Phe Lys Leu Glu Lys Ser Val Asp Asn Tyr Tyr His Leu |     | 400 |
|   | 405 | 410 |
| Leu Thr Thr Arg Asp Leu Asp Arg Glu Thr Ser Asp Tyr Asn Ile     |     | 415 |
|   | 420 | 425 |
| Thr Leu Thr Val Met Asp His Gly Thr Pro Pro Leu Ser Thr Glu Ser |     | 430 |
|   | 435 | 440 |
| His Ile Pro Leu Lys Val Ala Asp Val Asn Asp Asn Pro Pro Asn Phe |     | 445 |
|   | 450 | 455 |
| Pro Gln Ala Ser Tyr Ser Thr Ser Val Thr Glu Asn Asn Pro Arg Gly |     | 460 |
| 465   | 470 | 475 |
| Val Ser Ile Phe Ser Val Thr Ala His Asp Pro Asp Ser Gly Asp Asn |     | 480 |
|   | 485 | 490 |
| Ala Arg Val Thr Tyr Ser Leu Ala Glu Asp Thr Phe Gln Gly Ala Pro |     | 495 |
|   | 500 | 505 |
| Leu Ser Ser Tyr Val Ser Ile Asn Ser Asp Thr Gly Val Leu Tyr Ala |     | 510 |
|   | 515 | 520 |
| Leu Arg Ser Phe Asp Tyr Glu Gln Leu Arg Asp Leu Gln Leu Trp Val |     | 525 |
|   | 530 | 535 |
| Thr Ala Ser Asp Ser Gly Asn Pro Pro Leu Ser Ser Asn Val Ser Leu |     | 540 |
| 545   | 550 | 555 |
| Ser Leu Phe Val Leu Asp Gln Asn Asp Asn Thr Pro Glu Ile Leu Tyr |     | 560 |
|   | 565 | 570 |
| Pro Ala Leu Pro Thr Asp Gly Ser Thr Gly Val Glu Leu Ala Pro Arg |     | 575 |
|   | 580 | 585 |
| Ser Ala Glu Pro Gly Tyr Leu Val Thr Lys Val Val Ala Val Asp Lys |     | 590 |
|   | 595 | 600 |
| Asp Ser Gly Gln Asn Ala Trp Leu Ser Tyr Arg Leu Leu Lys Ala Ser |     | 605 |
|   | 610 | 615 |
| Glu Pro Gly Leu Phe Ala Val Gly Leu His Thr Gly Glu Val Arg Thr |     | 620 |
| 625   | 630 | 635 |
| Ala Arg Ala Leu Leu Asp Arg Asp Ala Leu Lys Gln Ser Leu Val Val |     | 640 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |  |  |
| Ala | Val | Glu | Asp | His | Gly | Gln | Pro | Pro | Leu | Ser | Ala | Thr | Phe | Thr | Val |  |  |
|     |     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |  |  |
| Thr | Val | Ala | Val | Ala | Asp | Arg | Ile | Pro | Asp | Ile | Leu | Ala | Asp | Leu | Gly |  |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Ser | Ile | Lys | Thr | Pro | Ile | Asp | Pro | Glu | Asp | Leu | Asp | Leu | Thr | Leu | Tyr |  |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Leu | Val | Val | Ala | Val | Ala | Ala | Val | Ser | Cys | Val | Phe | Leu | Ala | Phe | Val |  |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |  |
| Ile | Val | Leu | Leu | Val | Leu | Arg | Leu | Arg | Arg | Trp | His | Lys | Ser | Arg | Leu |  |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |  |  |
| Leu | Gln | Ala | Glu | Gly | Ser | Arg | Leu | Ala | Gly | Val | Pro | Ala | Ser | His | Phe |  |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     | 750 |     |     |     |  |  |
| Val | Gly | Val | Asp | Gly | Val | Arg | Ala | Phe | Leu | Gln | Thr | Tyr | Ser | His | Glu |  |  |
|     | 755 |     |     |     |     | 760 |     |     |     |     |     | 765 |     |     |     |  |  |
| Val | Ser | Leu | Thr | Ala | Asp | Ser | Arg | Lys | Ser | His | Leu | Ile | Phe | Pro | Gln |  |  |
|     | 770 |     |     |     | 775 |     |     |     |     |     | 780 |     |     |     |     |  |  |
| Pro | Asn | Tyr | Ala | Asp | Thr | Leu | Leu | Ser | Glu | Glu | Ser | Cys | Glu | Lys | Ser |  |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |  |
| Glu | Pro | Leu | Leu | Met | Ser | Asp | Lys | Val | Asp | Ala | Asn | Lys | Glu | Glu | Arg |  |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |  |
| Arg | Val | Gln | Gln | Ala | Pro | Pro | Asn | Thr | Asp | Trp | Arg | Phe | Ser | Gln | Ala |  |  |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |  |
| Gln | Arg | Pro | Gly | Thr | Ser | Gly | Ser | Gln | Asn | Gly | Asp | Asp | Thr | Gly | Thr |  |  |
|     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |     |  |  |
| Trp | Pro | Asn | Asn | Gln | Phe | Asp | Thr | Glu | Met | Leu | Gln | Ala | Met | Ile | Leu |  |  |
|     | 850 |     |     |     |     | 855 |     |     |     | 860 |     |     |     |     |     |  |  |
| Ala | Ser | Ala | Ser | Glu | Ala | Ala | Asp | Gly | Ser | Ser | Thr | Leu | Gly | Gly | Gly |  |  |
| 865 |     |     |     | 870 |     |     |     |     |     | 875 |     |     |     |     | 880 |  |  |
| Ala | Gly | Thr | Met | Gly | Leu | Ser | Ala | Arg | Tyr | Gly | Pro | Gln | Phe | Thr | Leu |  |  |
|     |     |     | 885 |     |     |     |     | 890 |     |     |     |     |     | 895 |     |  |  |
| Gln | His | Val | Leu | Gln | Gly | Glu | Leu | Gly | Ser | Asp | Tyr | Arg | Gln | Asn | Val |  |  |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |
| Tyr | Ile | Pro | Gly | Ser | Asn | Ala | Thr | Leu | Thr | Asn | Ala | Ala | Gly | Lys | Arg |  |  |
|     | 915 |     |     |     |     | 920 |     |     |     |     |     | 925 |     |     |     |  |  |
| Asp | Gly | Lys | Ala | Pro | Ala | Gly | Gly | Asn | Gly | Asn | Lys | Lys | Lys | Ser | Gly |  |  |
|     | 930 |     |     |     |     | 935 |     |     |     |     | 940 |     |     |     |     |  |  |
| Lys | Lys | Glu | Lys | Lys |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 945 |     |     |     | 949 |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3280

&lt;211&gt; 379

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3280

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gly | Thr | Ser | Gln | Met | Ser | Ser | His | Lys | Gly | Ser | Val | Val | Ala | Gln | Gly |  |  |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Asn | Gly | Ala | Pro | Ala | Ser | Asn | Arg | Glu | Ala | Asp | Thr | Ala | Glu | Leu | Ala |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Glu | Leu | Gly | Pro | Leu | Leu | Glu | Glu | Lys | Gly | Lys | Arg | Val | Ile | Ala | Asn |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Pro | Lys | Ala | Glu | Glu | Glu | Gln | Thr | Cys | Pro | Val | Pro | Gln | Glu | Glu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Glu | Glu | Glu | Val | Arg | Val | Leu | Thr | Leu | Pro | Leu | Gln | Ala | His | His | Ala |  |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Met | Glu | Lys | Met | Glu | Glu | Phe | Val | Tyr | Lys | Val | Trp | Glu | Gly | Arg | Trp |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Arg | Val | Ile | Pro | Tyr | Asp | Val | Leu | Pro | Asp | Trp | Leu | Lys | Asp | Asn | Asp |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Tyr | Leu | Leu | His | Gly | His | Arg | Pro | Pro | Met | Pro | Ser | Phe | Arg | Ala | Cys |  |  |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Phe Lys Ser Ile Phe Arg Ile His Thr Glu Thr Gly Asn Ile Trp Thr |     |     |
| 130   | 135 | 140 |
| His Leu Leu Gly Phe Val Leu Phe Leu Phe Leu Gly Ile Leu Thr Met |     |     |
| 145   | 150 | 155 |
| Leu Arg Pro Asn Met Tyr Phe Met Ala Pro Leu Gln Glu Lys Val Val |     | 160 |
|   | 165 | 170 |
| Phe Gly Met Phe Phe Leu Gly Ala Val Leu Cys Leu Ser Phe Ser Trp |     | 175 |
|   | 180 | 185 |
| Leu Phe His Thr Val Tyr Cys His Ser Glu Lys Val Ser Arg Thr Phe |     | 190 |
|   | 195 | 200 |
| Ser Lys Leu Asp Tyr Ser Gly Ile Ala Leu Leu Ile Met Gly Ser Phe |     | 205 |
|   | 210 | 215 |
| Val Pro Trp Leu Tyr Tyr Ser Phe Tyr Cys Ser Pro Gln Pro Arg Leu |     | 220 |
| 225   | 230 | 235 |
| Ile Tyr Leu Ser Ile Val Cys Val Leu Gly Ile Ser Ala Ile Ile Val |     | 240 |
|   | 245 | 250 |
| Ala Gln Trp Asp Arg Phe Ala Thr Pro Lys His Arg Gln Thr Arg Ala |     | 255 |
|   | 260 | 265 |
| Gly Val Phe Leu Gly Leu Gly Leu Ser Gly Val Val Pro Thr Met His |     | 270 |
|   | 275 | 280 |
| Phe Thr Ile Ala Glu Gly Phe Val Lys Ala Thr Thr Val Gly Gln Met |     | 285 |
|   | 290 | 295 |
| Gly Trp Phe Phe Leu Met Ala Val Met Tyr Ile Thr Gly Ala Gly Leu |     | 300 |
| 305   | 310 | 315 |
| Tyr Ala Ala Arg Ile Pro Glu Arg Phe Phe Pro Gly Lys Phe Asp Ile |     | 320 |
|   | 325 | 330 |
| Trp Phe Gln Ser His Gln Ile Phe His Val Leu Val Val Ala Ala Ala |     | 335 |
|   | 340 | 345 |
| Phe Val His Phe Tyr Gly Val Ser Asn Leu Gln Glu Phe Arg Tyr Gly |     | 350 |
|   | 355 | 360 |
| Leu Glu Gly Gly Cys Thr Asp Asp Thr Leu Leu                     |     | 365 |
| 370   | 375 | 379 |

&lt;210&gt; 3281

&lt;211&gt; 185

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3281

|   |     |     |
|---|-----|-----|
| Arg Pro Arg Arg Arg Gln Pro Ser Phe Ser Cys Arg Val Leu Val Leu |     |     |
| 1   | 5   | 10  |
| Glu Asp Pro Pro Cys Phe Arg Phe Thr Asn Ser Met Asn Gln Glu Lys |     | 15  |
|   | 20  | 25  |
| Leu Ala Lys Leu Gln Ala Gln Val Arg Ile Gly Gly Lys Gly Thr Ala |     | 30  |
|   | 35  | 40  |
| Arg Arg Lys Lys Lys Val Val His Arg Thr Ala Thr Ala Asp Asp Lys |     | 45  |
|   | 50  | 55  |
| Lys Leu Gln Ser Ser Leu Lys Lys Leu Ala Val Asn Asn Ile Ala Gly |     | 60  |
| 65  | 70  | 75  |
| Ile Glu Glu Val Asn Met Ile Lys Asp Asp Gly Thr Val Ile His Phe |     | 80  |
|   | 85  | 90  |
| Asn Asn Pro Lys Val Gln Ala Ser Leu Ser Ala Asn Thr Phe Ala Ile |     | 95  |
|   | 100 | 105 |
| Thr Gly His Ala Glu Ala Lys Pro Ile Thr Glu Met Leu Pro Gly Ile |     | 110 |
|   | 115 | 120 |
| Leu Ser Gln Leu Gly Ala Asp Ser Leu Thr Ser Leu Arg Lys Leu Ala |     | 125 |
|   | 130 | 135 |
| Glu Gln Phe Pro Arg Gln Val Leu Asp Ser Lys Ala Pro Lys Pro Glu |     | 140 |
| 145   | 150 | 155 |
| Asp Ile Asp Glu Glu Asp Asp Asp Val Pro Asp Leu Val Glu Asn Phe |     | 160 |

```
<210> 3282
<211> 328
<212> PRT
<213> Homo sapiens
```

```
<210> 3283
<211> 129
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 3283

```

Ile Lys Ser Lys Leu Asn Gln Gln Val Glu Val Gln Glu Ser Glu Trp
 1          5          10          15
Arg Leu Thr Glu Ala Lys Gly Pro Thr Met Gly Lys Glu Ser Gly Trp
          20          25          30
Asp Ser Gly Arg Ala Ala Val Ala Ala Val Val Gly Gly Val Val Ala
          35          40          45
Val Gly Thr Val Leu Val Ala Leu Ser Ala Met Gly Phe Thr Ser Val
          50          55          60
Gly Ile Ala Ala Ser Ser Ile Ala Ala Lys Met Met Ser Thr Ala Ala
          65          70          75          80
Ile Ala Asn Gly Gly Gly Val Ala Ala Gly Ser Leu Val Ala Ile Leu
          85          90          95
Gln Ser Val Gly Ala Ala Gly Leu Ser Val Thr Ser Lys Val Ile Gly
          100          105          110
Gly Phe Ala Gly Thr Ala Leu Gly Ala Trp Leu Gly Ser Pro Pro Ser
          115          120          125
Ser
129

```

&lt;210&gt; 3284

&lt;211&gt; 136

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3284

```

Thr Ser Asn Ser Leu Leu Arg Pro Asp Arg Met Ser Val Met Asp Leu
 1          5          10          15
Ala Asn Thr Cys Ser Ser Phe Gln Ser Asp Leu Asp Phe Cys Ser Asp
          20          25          30
Cys Gly Ser Val Leu Pro Leu Pro Gly Ala Gln Asp Thr Val Thr Cys
          35          40          45
Ile Arg Cys Gly Phe Asn Ile Asn Val Arg Asp Phe Glu Gly Lys Val
          50          55          60
Val Lys Thr Ser Val Val Phe His Gln Leu Gly Thr Ala Met Pro Met
          65          70          75          80
Ser Val Glu Glu Gly Pro Glu Cys Gln Gly Pro Val Val Asp Arg Arg
          85          90          95
Cys Pro Arg Cys Gly His Glu Gly Met Ala Tyr His Thr Arg Gln Met
          100          105          110
Arg Ser Ala Asp Glu Gly Gln Thr Val Phe Tyr Thr Cys Thr Asn Cys
          115          120          125
Lys Phe Gln Glu Lys Glu Asp Ser
          130          135 136

```

&lt;210&gt; 3285

&lt;211&gt; 470

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3285

```

His Arg Leu Ser Tyr Asp Glu Ala Phe Ala Met Ala Asn Asp Pro Leu
 1          5          10          15
Glu Gly Phe His Glu Val Asn Leu Ala Ser Pro Thr Ser Pro Asp Leu
          20          25          30
Leu Gly Val Tyr Glu Ser Gly Thr Gln Glu Gln Thr Thr Ser Pro Ser
          35          40          45
Val Ile Tyr Arg Pro His Pro Ser Ala Leu Ser Ser Val Pro Ile Gln

```

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Ala Asn Ala Leu Asp Val Ser Glu Leu Pro Thr Gln Pro Val Tyr Ser |     |     |
| 65  | 70  | 75  |
| Ser Pro Arg Arg Leu Asn Cys Ala Glu Ile Ser Ser Ile Ser Phe His |     | 80  |
|   | 85  | 90  |
| Val Thr Asp Pro Ala Pro Cys Ser Thr Ser Gly Val Thr Ala Gly Leu |     | 95  |
|   | 100 | 105 |
| Thr Lys Leu Thr Thr Arg Lys Asp Asn Tyr Asn Ala Glu Arg Glu Phe |     | 110 |
|   | 115 | 120 |
| Leu Gln Gly Ala Thr Ile Thr Glu Ala Cys Asp Gly Ser Asp Asp Ile |     | 125 |
|   | 130 | 135 |
| Phe Gly Leu Ser Thr Asp Ser Leu Ser Arg Leu Arg Ser Pro Ser Val |     | 140 |
| 145   | 150 | 155 |
| Leu Glu Val Arg Glu Lys Gly Tyr Glu Arg Leu Lys Glu Glu Leu Ala |     | 160 |
|   | 165 | 170 |
| Lys Ala Gln Arg Glu Leu Lys Leu Lys Asp Glu Glu Cys Glu Arg Leu |     | 175 |
|   | 180 | 185 |
| Ser Lys Val Arg Asp Gln Leu Gly Gln Glu Leu Glu Glu Leu Thr Ala |     | 190 |
|   | 195 | 200 |
| Ser Leu Phe Glu Glu Ala His Lys Met Val Arg Glu Ala Asn Ile Lys |     | 205 |
|   | 210 | 215 |
| Gln Ala Thr Ala Glu Lys Gln Leu Lys Glu Ala Gln Gly Lys Ile Asp |     | 220 |
| 225   | 230 | 235 |
| Val Leu Gln Ala Glu Val Ala Ala Leu Lys Thr Leu Val Leu Ser Ser |     | 240 |
|   | 245 | 250 |
| Ser Pro Thr Ser Pro Thr Gln Glu Pro Leu Pro Gly Gly Lys Thr Pro |     | 255 |
|   | 260 | 265 |
| Phe Lys Lys Gly His Thr Arg Asn Lys Ser Thr Ser Ser Ala Met Ser |     | 270 |
|   | 275 | 280 |
| Gly Ser His Gln Asp Leu Ser Val Ile Gln Pro Ile Val Lys Asp Cys |     | 285 |
|   | 290 | 295 |
| Lys Glu Ala Asp Leu Ser Leu Tyr Asn Glu Phe Arg Leu Trp Lys Asp |     | 300 |
| 305   | 310 | 315 |
| Glu Pro Thr Met Asp Arg Thr Cys Pro Phe Leu Asp Lys Ile Tyr Gln |     | 320 |
|   | 325 | 330 |
| Glu Asp Ile Phe Pro Cys Leu Thr Phe Ser Lys Ser Glu Leu Ala Ser |     | 335 |
|   | 340 | 345 |
| Ala Val Leu Glu Ala Val Glu Asn Asn Thr Leu Ser Ile Glu Pro Val |     | 350 |
|   | 355 | 360 |
| Gly Leu Gln Pro Ile Arg Phe Val Lys Ala Ser Ala Val Glu Cys Gly |     | 365 |
|   | 370 | 375 |
| Gly Pro Lys Lys Cys Ala Leu Thr Gly Gln Ser Lys Ser Cys Lys His |     | 380 |
| 385   | 390 | 395 |
| Arg Ile Lys Leu Gly Asp Ser Ser Asn Tyr Tyr Tyr Ile Ser Pro Phe |     | 400 |
|   | 405 | 410 |
| Cys Arg Tyr Arg Ile Thr Ser Val Cys Asn Phe Phe Thr Tyr Ile Arg |     | 415 |
|   | 420 | 425 |
| Tyr Ile Gln Gln Gly Leu Val Lys Gln Gln Asp Val Asp Gln Met Phe |     | 430 |
|   | 435 | 440 |
| Trp Glu Val Met Gln Leu Arg Lys Glu Met Ser Leu Ala Lys Leu Gly |     | 445 |
| 450   | 455 | 460 |
| Tyr Phe Lys Glu Glu Leu   |     |     |
| 465   | 470 |     |

&lt;210&gt; 3286

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3286

Gly Pro Ser Gln Ser Met Ala Ala Gly Glu Leu Glu Gly Gly Lys Pro

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Leu Ser Gly Leu Leu Asn Ala Leu Ala Gln Asp Thr Phe His Gly Tyr |     |     |     |
| 20  | 25  | 30  |     |
| Pro Gly Ile Thr Glu Glu Leu Leu Arg Ser Gln Leu Tyr Pro Glu Val |     |     |     |
| 35  | 40  | 45  |     |
| Pro Pro Glu Glu Phe Arg Pro Phe Leu Ala Lys Met Arg Gly Ile Leu |     |     |     |
| 50  | 55  | 60  |     |
| Lys Ser Ile Ala Ser Ala Asp Met Asp Phe Asn Gln Leu Glu Ala Phe |     |     |     |
| 65  | 70  | 75  | 80  |
| Leu Thr Ala Gln Thr Lys Lys Gln Gly Gly Ile Thr Ser Asp Gln Ala |     |     |     |
| 85  | 90  | 95  |     |
| Ala Val Ile Ser Lys Phe Trp Lys Ser His Lys Thr Lys Ile Arg Glu |     |     |     |
| 100   | 105 | 110 |     |
| Ser Leu Met Asn Gln Ser Arg Trp Asn Ser Gly Leu Arg Gly Leu Ser |     |     |     |
| 115   | 120 | 125 |     |
| Trp Arg Val Asp Gly Lys Ser Gln Ser Arg His Ser Ala Gln Ile His |     |     |     |
| 130   | 135 | 140 |     |
| Thr Pro Val Ala Ile Ile Glu Leu Glu Leu Gly Lys Tyr Gly Gln Glu |     |     |     |
| 145   | 150 | 155 | 160 |
| Ser Glu Phe Leu Cys Leu Glu Phe Asp Glu Val Lys Val Asn Gln Ile |     |     |     |
| 165   | 170 | 175 |     |
| Leu Lys Thr Leu Ser Glu Val Glu Glu Ser Ile Ser Thr Leu Ile Ser |     |     |     |
| 180   | 185 | 190 |     |
| Gln Pro Asn   |     |     |     |
| 195   |     |     |     |

<210> 3287  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<400> 3287

|   |     |     |    |
|---|-----|-----|----|
| Leu Gly Ala Met Ala Lys His His Pro Asp Leu Ile Phe Cys Arg Lys |     |     |    |
| 1   | 5   | 10  | 15 |
| Gln Ala Gly Val Ala Ile Gly Arg Leu Cys Glu Lys Cys Asp Gly Lys |     |     |    |
| 20  | 25  | 30  |    |
| Cys Val Ile Cys Asp Ser Tyr Val Arg Pro Cys Thr Leu Val Arg Ile |     |     |    |
| 35  | 40  | 45  |    |
| Cys Asp Glu Cys Asn Tyr Gly Ser Tyr Gln Gly Arg Cys Val Ile Cys |     |     |    |
| 50  | 55  | 60  |    |
| Gly Gly Pro Gly Val Ser Asp Ala Tyr Tyr Cys Lys Glu Cys Thr Ile |     |     |    |
| 65  | 70  | 75  | 80 |
| Gln Glu Lys Asp Arg Asp Gly Cys Pro Lys Ile Val Asn Leu Gly Ser |     |     |    |
| 85  | 90  | 95  |    |
| Ser Lys Thr Asp Leu Phe Tyr Glu Arg Lys Lys Tyr Gly Phe Lys Lys |     |     |    |
| 100   | 105 | 110 |    |
| Arg   |     |     |    |
| 113   |     |     |    |

<210> 3288  
 <211> 141  
 <212> PRT  
 <213> Homo sapiens

<400> 3288

|   |   |    |    |
|---|---|----|----|
| Arg Thr Thr Phe Phe Arg Phe Arg Pro Cys Glu Ser Leu Cys Gly Asp |   |    |    |
| 1   | 5 | 10 | 15 |
| Met Lys Leu Leu Thr His Asn Leu Leu Ser Ser His Val Arg Gly Val |   |    |    |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Gly | Ser | Arg | Gly | Phe | Pro | Leu | Arg | Leu | Gln | Ala | Thr | Glu | Val | Arg | Ile |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Cys | Pro | Val | Glu | Phe | Asn | Pro | Asn | Phe | Val | Ala | Arg | Met | Ile | Pro | Lys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Val | Glu | Trp | Ser | Ala | Phe | Leu | Glu | Ala | Ala | Asp | Asn | Leu | Arg | Leu | Ile |  |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Gln | Val | Pro | Lys | Gly | Pro | Val | Glu | Gly | Tyr | Glu | Glu | Asn | Glu | Glu | Phe |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Leu | Arg | Thr | Met | His | His | Leu | Leu | Leu | Glu | Val | Glu | Val | Ile | Glu | Gly |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Thr | Leu | Gln | Cys | Pro | Glu | Ser | Gly | Arg | Met | Phe | Pro | Ile | Ser | Arg | Gly |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Pro | Asn | Met | Leu | Leu | Ser | Glu | Glu | Glu | Thr | Glu | Ser |     |     |     |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 | 141 |     |     |     |  |  |

&lt;210&gt; 3289

&lt;211&gt; 581

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3289

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Gly | Cys | Cys | Arg | Asp | Thr | Arg | Phe | Pro | Thr | Pro | Arg | Gly | Pro | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Ser | Leu | Cys | His | Asn | Phe | Cys | Arg | Ser | Ala | Ala | Cys | Thr | Val | Thr | Arg |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Thr | Ile | His | Gly | Ser | Pro | Arg | Glu | Asp | Thr | Gly | Thr | Pro | Arg | Ser | Arg |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Glu | Met | Met | Phe | Gln | Asp | Ser | Val | Ala | Phe | Glu | Asp | Val | Ala | Val | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Phe | Thr | Gln | Glu | Glu | Trp | Ala | Leu | Leu | Asp | Pro | Ser | Gln | Lys | Asn | Leu |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Tyr | Arg | Asp | Val | Met | Gln | Glu | Thr | Phe | Lys | Asn | Leu | Thr | Ser | Val | Gly |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Lys | Thr | Trp | Lys | Val | Gln | Asn | Ile | Glu | Asp | Glu | Tyr | Lys | Asn | Pro | Arg |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Arg | Asn | Leu | Ser | Leu | Met | Arg | Glu | Lys | Leu | Cys | Glu | Ser | Lys | Glu | Ser |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| His | His | Cys | Gly | Glu | Ser | Phe | Asn | Gln | Ile | Ala | Asp | Asp | Met | Leu | Asn |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | Lys | Thr | Leu | Pro | Gly | Ile | Thr | Pro | Cys | Glu | Ser | Ser | Val | Cys | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Glu | Val | Gly | Thr | Gly | His | Ser | Ser | Leu | Asn | Thr | His | Ile | Arg | Ala | Asp |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Thr | Gly | His | Lys | Ser | Ser | Glu | Tyr | Gln | Glu | Tyr | Gly | Glu | Asn | Pro | Tyr |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Arg | Asn | Lys | Glu | Cys | Lys | Lys | Ala | Phe | Ser | Tyr | Leu | Asp | Ser | Phe | Gln |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ser | His | Asp | Lys | Ala | Cys | Thr | Lys | Glu | Lys | Pro | Tyr | Asp | Gly | Lys | Glu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Cys | Thr | Glu | Thr | Phe | Ile | Ser | His | Ser | Cys | Ile | Gln | Arg | His | Arg | Val |  |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Met | His | Ser | Gly | Asp | Gly | Pro | Tyr | Lys | Cys | Lys | Phe | Cys | Gly | Lys | Ala |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Phe | Tyr | Phe | Leu | Asn | Leu | Cys | Leu | Ile | His | Glu | Arg | Ile | His | Thr | Gly |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Val | Lys | Pro | Tyr | Lys | Cys | Lys | Gln | Cys | Gly | Lys | Ala | Phe | Thr | Arg | Ser |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Thr | Thr | Leu | Pro | Val | His | Glu | Arg | Thr | His | Thr | Gly | Val | Asn | Ala | Asp |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Glu | Cys | Lys | Glu | Cys | Gly | Asn | Ala | Phe | Ser | Phe | Pro | Ser | Glu | Ile | Arg |  |  |

|                     |                     |                     |         |     |     |     |
|---------------------|---------------------|---------------------|---------|-----|-----|-----|
| 305                 |                     | 310                 |         | 315 |     | 320 |
| Arg His Lys Arg Ser | His Thr Gly Glu Lys | Pro Tyr Glu Cys Lys | Gln     |     |     |     |
|                     | 325                 |                     | 330     |     | 335 |     |
| Cys Gly Lys Val Phe | Ile Ser Phe Ser     | Ile Gln Tyr His     | Lys Met |     |     |     |
|                     | 340                 |                     | 345     |     | 350 |     |
| Thr His Thr Gly Glu | Lys Pro Tyr Glu Cys | Lys Gln Cys Gly     | Lys Ala |     |     |     |
|                     | 355                 |                     | 360     |     | 365 |     |
| Phe Arg Cys Gly Ser | His Leu Gln Lys His | Gly Arg Thr His     | Thr Gly |     |     |     |
|                     | 370                 |                     | 375     |     | 380 |     |
| Glu Lys Pro Tyr Glu | Cys Arg Gln Cys Gly | Lys Ala Phe Arg     | Cys Thr |     |     |     |
| 385                 |                     | 390                 |         | 395 |     | 400 |
| Ser Asp Leu Gln Arg | His Glu Lys Thr His | Thr Glu Asp Lys     | Pro Tyr |     |     |     |
|                     | 405                 |                     | 410     |     | 415 |     |
| Gly Cys Lys Gln Cys | Gly Lys Gly Phe Arg | Cys Ala Ser Gln     | Leu Gln |     |     |     |
|                     | 420                 |                     | 425     |     | 430 |     |
| Ile His Glu Arg Thr | His Ser Gly Glu Lys | Pro His Glu Cys     | Lys Glu |     |     |     |
|                     | 435                 |                     | 440     |     | 445 |     |
| Cys Gly Lys Val Phe | Lys Tyr Phe Ser Ser | Leu Arg Ile His     | Glu Arg |     |     |     |
|                     | 450                 |                     | 455     |     | 460 |     |
| Thr His Thr Gly Glu | Lys Pro His Glu Cys | Lys Gln Cys Gly     | Lys Ala |     |     |     |
| 465                 |                     | 470                 |         | 475 |     | 480 |
| Phe Arg Tyr Phe Ser | Ser Leu His Ile His | Glu Arg Thr His     | Thr Gly |     |     |     |
|                     | 485                 |                     | 490     |     | 495 |     |
| Asp Lys Pro Tyr Glu | Cys Lys Val Cys Gly | Lys Ala Phe Thr     | Cys Ser |     |     |     |
|                     | 500                 |                     | 505     |     | 510 |     |
| Ser Ser Ile Arg Tyr | His Glu Arg Thr His | Thr Gly Glu Lys     | Pro Tyr |     |     |     |
|                     | 515                 |                     | 520     |     | 525 |     |
| Glu Cys Lys His Cys | Gly Lys Ala Phe Ile | Ser Asn Tyr Ile     | Arg Tyr |     |     |     |
|                     | 530                 |                     | 535     |     | 540 |     |
| His Glu Arg Thr His | Thr Gly Glu Lys Pro | Tyr Gln Cys Lys     | Gln Cys |     |     |     |
| 545                 |                     | 550                 |         | 555 |     | 560 |
| Gly Lys Ala Phe Ile | Arg Ala Ser Ser Cys | Arg Glu His Glu     | Arg Thr |     |     |     |
|                     | 565                 |                     | 570     |     | 575 |     |
| His Thr Ile Asn Arg |                     |                     |         |     |     |     |
|                     | 580                 | 581                 |         |     |     |     |

&lt;210&gt; 3290

&lt;211&gt; 449

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3290

|                     |                     |                 |         |
|---------------------|---------------------|-----------------|---------|
| Gly Arg Pro Arg Ser | Ser Ser Asp Asn Arg | Asn Phe Leu Arg | Glu Arg |
| 1                   | 5                   | 10              | 15      |
| Ala Gly Leu Ser Ser | Ala Ala Val Gln Thr | Arg Ile Gly Asn | Ser Ala |
|                     | 20                  | 25              | 30      |
| Ala Ser Arg Arg Ser | Pro Ala Ala Arg Pro | Pro Val Pro Ala | Pro Pro |
|                     | 35                  | 40              | 45      |
| Ala Leu Pro Arg Gly | Arg Pro Gly Thr Glu | Gly Ser Thr Ser | Leu Ser |
|                     | 50                  | 55              | 60      |
| Ala Pro Ala Val Leu | Val Val Ala Val Ala | Val Val Val Val | Val Val |
|                     | 65                  | 70              | 75      |
| Ser Ala Val Ala Trp | Ala Met Ala Asn Tyr | Ile His Val Pro | Pro Gly |
|                     | 85                  | 90              | 95      |
| Ser Pro Glu Val Pro | Lys Leu Asn Val Thr | Val Gln Asp Gln | Glu Glu |
|                     | 100                 | 105             | 110     |
| His Arg Cys Arg Glu | Gly Ala Leu Ser Leu | Leu Gln His Leu | Arg Pro |
|                     | 115                 | 120             | 125     |
| His Trp Asp Pro Gln | Glu Val Thr Leu Gln | Leu Phe Thr Asp | Gly Ile |
|                     | 130                 | 135             | 140     |
| Thr Asn Lys Leu Ile | Gly Cys Tyr Val Gly | Asn Thr Met Glu | Asp Val |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Val | Leu | Val | Arg | Ile | Tyr | Gly | Asn | Lys | Thr | Glu | Leu | Leu | Val | Asp | Arg |
|     |     | 165 |     |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Glu | Glu | Val | Lys | Ser | Phe | Arg | Val | Leu | Gln | Ala | His | Gly | Cys | Ala |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Pro | Gln | Leu | Tyr | Cys | Thr | Phe | Asn | Asn | Gly | Leu | Cys | Tyr | Glu | Phe | Ile |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | Gly | Glu | Ala | Leu | Asp | Pro | Lys | His | Val | Cys | Asn | Pro | Ala | Ile | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Leu | Ile | Ala | Arg | Gln | Leu | Ala | Lys | Ile | His | Ala | Ile | His | Ala | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asn | Gly | Trp | Ile | Pro | Lys | Ser | Asn | Leu | Trp | Leu | Lys | Met | Gly | Lys | Tyr |
|     |     | 245 |     |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Phe | Ser | Leu | Ile | Pro | Thr | Gly | Phe | Ala | Asp | Glu | Asp | Ile | Asn | Lys | Arg |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |
| Phe | Leu | Ser | Asp | Ile | Pro | Ser | Ser | Gln | Ile | Leu | Gln | Glu | Glu | Met | Thr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Trp | Met | Lys | Glu | Ile | Leu | Ser | Asn | Leu | Gly | Ser | Pro | Val | Val | Leu | Cys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| His | Asn | Asp | Leu | Leu | Cys | Lys | Asn | Ile | Ile | Tyr | Asn | Glu | Lys | Gln | Gly |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asp | Val | Gln | Phe | Ile | Asp | Tyr | Glu | Tyr | Ser | Gly | Tyr | Asn | Tyr | Leu | Ala |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Tyr | Asp | Ile | Gly | Asn | His | Phe | Asn | Glu | Phe | Ala | Gly | Val | Ser | Asp | Val |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |
| Asp | Tyr | Ser | Leu | Tyr | Pro | Asp | Arg | Glu | Leu | Gln | Ser | Gln | Trp | Leu | Arg |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ala | Tyr | Leu | Glu | Ala | Tyr | Lys | Glu | Phe | Lys | Gly | Phe | Gly | Thr | Glu | Val |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Thr | Glu | Lys | Glu | Val | Glu | Ile | Leu | Phe | Ile | Gln | Val | Asn | Gln | Phe | Ala |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Ala | Ser | His | Phe | Phe | Trp | Gly | Leu | Trp | Ala | Leu | Ile | Gln | Ala | Lys |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Tyr | Ser | Thr | Ile | Glu | Phe | Asp | Phe | Leu | Gly | Tyr | Ala | Ile | Val | Arg | Phe |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Asn | Gln | Tyr | Phe | Lys | Met | Lys | Pro | Glu | Val | Thr | Ala | Leu | Lys | Val | Pro |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Glu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 449 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3291

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3291

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Glu | Ala | Gln | Thr | Ser | Ala | Val | Leu | Ala | Arg | Glu | Lys | Gly | His | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Thr | Met | Arg | His | Glu | Ala | Pro | Met | Gln | Met | Ala | Ser | Ala | Gln | Asp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Arg | Tyr | Gly | Gln | Lys | Asp | Ser | Ser | Asp | Gln | Asn | Phe | Asp | Tyr | Met |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Phe | Lys | Leu | Leu | Ile | Ile | Gly | Asn | Ser | Ser | Val | Gly | Lys | Thr | Ser | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Leu | Phe | Arg | Tyr | Ala | Asp | Asp | Ser | Phe | Thr | Ser | Ala | Phe | Val | Ser | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Gly | Ile | Asp | Phe | Lys | Val | Lys | Thr | Val | Phe | Lys | Asn | Glu | Lys | Arg |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Lys | Leu | Gln | Ile | Trp | Asp | Thr | Ala | Gly | Gln | Glu | Arg | Tyr | Arg | Thr |
|     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ile | Thr | Thr | Ala | Tyr | Tyr | Arg | Gly | Ala | Met | Gly | Phe | Ile | Leu | Met | Tyr |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Asp Ile Thr Asn Glu Glu Ser Phe Asn Ala Val Gln Asp Trp Ser Thr |     |     |
| 130   | 135 | 140 |
| Gln Ile Lys Thr Tyr Ser Trp Asp Asn Ala Gln Val Ile Leu Val Gly |     |     |
| 145   | 150 | 155 |
| Asn Lys Cys Asp Met Glu Asp Glu Arg Val Ile Ser Thr Glu Arg Gly |     | 160 |
| 165   | 170 | 175 |
| Gln His Leu Gly Glu Gln Leu Gly Phe Glu Phe Phe Glu Thr Ser Ala |     |     |
| 180   | 185 | 190 |
| Lys Asp Asn Ile Asn Val Lys Gln Thr Phe Glu Arg Leu Val Asp Ile |     |     |
| 195   | 200 | 205 |
| Ile Cys Asp Lys Met Ser Glu Ser Leu Glu Thr Asp Pro Ala Ile Thr |     |     |
| 210   | 215 | 220 |
| Ala Ala Lys Gln Asn Thr Arg Leu Lys Glu Thr Pro Pro Pro Pro Gln |     |     |
| 225   | 230 | 235 |
| Pro Asn Cys Ala Cys   |     | 240 |
| 245   |     |     |

<210> 3292  
 <211> 1378  
 <212> PRT  
 <213> Homo sapiens

<400> 3292

|   |  |
|---|--|
| Asp Arg Pro Pro Trp Asn Ser Arg Val Asp Asp Phe Val Thr Asn Leu |  |
| 1 5 10 15   |  |
| Ile His Leu Ser Ser Lys Gly His Ile Ser Pro Ala Lys Asp Thr Ser |  |
| 20 25 30  |  |
| Leu Gln Gln Arg Thr Pro Ala Glu Met Ser Pro Val Leu His Phe Tyr |  |
| 35 40 45  |  |
| Val Arg Pro Ser Gly His Glu Gly Ala Ala Ser Gly His Thr Arg Arg |  |
| 50 55 60  |  |
| Lys Leu Gln Gly Lys Leu Pro Glu Leu Gln Gly Val Glu Thr Glu Leu |  |
| 65 70 75 80   |  |
| Cys Tyr Asn Val Asn Trp Thr Ala Glu Ala Leu Pro Ser Ala Glu Glu |  |
| 85 90 95  |  |
| Thr Lys Lys Leu Met Trp Leu Phe Gly Cys Pro Leu Leu Leu Asp Asp |  |
| 100 105 110   |  |
| Val Ala Arg Glu Ser Trp Leu Leu Pro Gly Ser Asn Asp Leu Leu Leu |  |
| 115 120 125   |  |
| Glu Val Gly Pro Arg Leu Asn Phe Ser Thr Pro Thr Ser Thr Asn Ile |  |
| 130 135 140   |  |
| Val Ser Val Cys Arg Ala Thr Gly Leu Gly Pro Val Asp Arg Val Glu |  |
| 145 150 155 160   |  |
| Thr Thr Arg Arg Tyr Arg Leu Ser Phe Ala His Pro Pro Ser Ala Glu |  |
| 165 170 175   |  |
| Val Glu Ala Ile Ala Leu Ala Thr Leu His Asp Arg Met Thr Glu Gln |  |
| 180 185 190   |  |
| His Phe Pro His Pro Ile Gln Ser Phe Ser Pro Glu Ser Met Pro Glu |  |
| 195 200 205   |  |
| Pro Leu Asn Gly Pro Ile Asn Ile Leu Gly Glu Gly Arg Leu Ala Leu |  |
| 210 215 220   |  |
| Glu Lys Ala Asn Gln Glu Leu Gly Leu Ala Leu Asp Ser Trp Asp Leu |  |
| 225 230 235 240   |  |
| Asp Phe Tyr Thr Lys Arg Phe Gln Glu Leu Gln Arg Asn Pro Ser Thr |  |
| 245 250 255   |  |
| Val Glu Ala Phe Asp Leu Ala Gln Ser Asn Ser Glu His Ser Arg His |  |
| 260 265 270   |  |
| Trp Phe Phe Lys Gly Gln Leu His Val Asp Gly Gln Lys Leu Val His |  |
| 275 280 285   |  |
| Ser Leu Phe Glu Ser Ile Met Ser Thr Gln Glu Ser Ser Asn Pro Asn |  |

|   |     |     |
|---|-----|-----|
| 290   | 295 | 300 |
| Asn Val Leu Lys Phe Cys Asp Asn Ser Ser Ala Ile Gln Gly Lys Glu |     |     |
| 305   | 310 | 315 |
| Val Arg Phe Leu Arg Pro Glu Asp Pro Thr Arg Pro Ser Arg Phe Gln |     |     |
|   | 325 | 330 |
| Gln Gln Gln Gly Leu Arg His Val Val Phe Thr Ala Glu Thr His Asn |     |     |
|   | 340 | 345 |
| Phe Pro Thr Gly Val Cys Pro Phe Ser Gly Ala Thr Thr Gly Thr Gly |     |     |
|   | 355 | 360 |
| Gly Arg Ile Arg Asp Val Gln Cys Thr Gly Arg Gly Ala His Val Val |     |     |
|   | 370 | 375 |
| Ala Gly Thr Ala Gly Tyr Cys Phe Gly Asn Leu His Ile Pro Gly Tyr |     |     |
| 385   | 390 | 395 |
| Asn Leu Pro Trp Glu Asp Leu Ser Phe Gln Tyr Pro Gly Asn Phe Ala |     |     |
|   | 405 | 410 |
| Arg Pro Leu Glu Val Ala Ile Glu Ala Ser Asn Gly Ala Ser Asp Tyr |     |     |
|   | 420 | 425 |
| Gly Asn Lys Phe Gly Glu Pro Val Leu Ala Gly Phe Ala Arg Ser Leu |     |     |
|   | 435 | 440 |
| Gly Leu Gln Leu Pro Asp Gly Gln Arg Arg Glu Trp Ile Lys Pro Ile |     |     |
| 450   | 455 | 460 |
| Met Phe Ser Gly Gly Ile Gly Ser Met Glu Ala Asp His Ile Ser Lys |     |     |
| 465   | 470 | 475 |
| Glu Ala Pro Glu Pro Gly Met Glu Val Val Lys Val Gly Gly Pro Val |     |     |
|   | 485 | 490 |
| Tyr Arg Ile Gly Val Gly Gly Gly Ala Ala Ser Ser Val Gln Val Gln |     |     |
|   | 500 | 505 |
| Gly Asp Asn Thr Ser Asp Leu Asp Phe Gly Ala Val Gln Arg Gly Asp |     |     |
|   | 515 | 520 |
| Pro Glu Met Glu Gln Lys Met Asn Arg Val Ile Arg Ala Cys Val Glu |     |     |
| 530   | 535 | 540 |
| Ala Pro Lys Gly Asn Pro Ile Cys Ser Leu His Asp Gln Gly Ala Gly |     |     |
| 545   | 550 | 555 |
| Gly Asn Gly Asn Val Leu Lys Glu Leu Ser Asp Pro Ala Gly Ala Ile |     |     |
|   | 565 | 570 |
| Ile Tyr Thr Ser Arg Phe Gln Leu Gly Asp Pro Thr Leu Asn Ala Leu |     |     |
|   | 580 | 585 |
| Glu Ile Trp Gly Ala Glu Tyr Gln Glu Ser Asn Ala Leu Leu Leu Arg |     |     |
|   | 595 | 600 |
| Ser Pro Asn Arg Asp Phe Leu Thr His Val Ser Ala Arg Glu Arg Cys |     |     |
| 610   | 615 | 620 |
| Pro Ala Cys Phe Val Gly Thr Ile Thr Gly Asp Arg Arg Ile Val Leu |     |     |
| 625   | 630 | 635 |
| Val Asp Asp Arg Glu Cys Pro Val Arg Arg Asn Gly Gln Gly Asp Ala |     |     |
|   | 645 | 650 |
| Pro Pro Thr Pro Pro Pro Thr Pro Val Asp Leu Glu Leu Glu Trp Val |     |     |
|   | 660 | 665 |
| Leu Gly Lys Met Pro Arg Lys Glu Phe Phe Leu Gln Arg Lys Pro Pro |     |     |
|   | 675 | 680 |
| Met Leu Gln Pro Leu Ala Leu Pro Pro Gly Leu Ser Val His Gln Ala |     |     |
| 690   | 695 | 700 |
| Leu Glu Arg Val Leu Arg Leu Pro Ala Val Ala Ser Lys Arg Tyr Leu |     |     |
| 705   | 710 | 715 |
| Thr Asn Lys Val Asp Arg Ser Val Gly Gly Leu Val Ala Gln Gln Gln |     |     |
|   | 725 | 730 |
| Cys Val Gly Pro Leu Gln Thr Pro Leu Ala Asp Val Ala Val Val Ala |     |     |
|   | 740 | 745 |
| Leu Ser His Glu Glu Leu Ile Gly Ala Ala Thr Ala Leu Gly Glu Gln |     |     |
|   | 755 | 760 |
| Pro Val Lys Ser Leu Leu Asp Pro Lys Val Ala Ala Arg Leu Ala Val |     |     |
| 770   | 775 | 780 |
| Ala Glu Ala Leu Thr Asn Leu Val Phe Ala Leu Val Thr Asp Leu Arg |     |     |
| 785   | 790 | 795 |
| Asp Val Lys Cys Ser Gly Asn Trp Met Trp Ala Ala Lys Leu Pro Gly |     |     |

|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
|      |      |      |      | 805  |      |      |      |      | 810  |      |      |      |      | 815  |      |  |  |
| Glu  | Gly  | Ala  | Ala  | Leu  | Ala  | Asp  | Ala  | Cys  | Glu  | Ala  | Met  | Val  | Ala  | Val  | Met  |  |  |
|      |      |      |      | 820  |      |      |      | 825  |      |      |      |      |      | 830  |      |  |  |
| Ala  | Ala  | Leu  | Gly  | Val  | Ala  | Val  | Asp  | Gly  | Gly  | Lys  | Asp  | Ser  | Leu  | Ser  | Met  |  |  |
|      |      | 835  |      |      |      |      | 840  |      |      |      |      | 845  |      |      |      |  |  |
| Ala  | Ala  | Arg  | Val  | Gly  | Thr  | Glu  | Thr  | Val  | Arg  | Ala  | Pro  | Gly  | Ser  | Leu  | Val  |  |  |
|      | 850  |      |      |      |      | 855  |      |      |      |      | 860  |      |      |      |      |  |  |
| Ile  | Ser  | Ala  | Tyr  | Ala  | Val  | Cys  | Pro  | Asp  | Ile  | Thr  | Ala  | Thr  | Val  | Thr  | Pro  |  |  |
| 865  |      |      |      |      | 870  |      |      |      |      | 875  |      |      |      |      | 880  |  |  |
| Asp  | Leu  | Lys  | His  | Pro  | Glu  | Gly  | Arg  | Gly  | His  | Leu  | Leu  | Tyr  | Val  | Ala  | Leu  |  |  |
|      |      |      |      | 885  |      |      |      |      | 890  |      |      |      |      |      | 895  |  |  |
| Ser  | Pro  | Gly  | Gln  | His  | Arg  | Leu  | Gly  | Gly  | Thr  | Ala  | Leu  | Ala  | Gln  | Cys  | Phe  |  |  |
|      |      | 900  |      |      |      |      |      | 905  |      |      |      |      | 910  |      |      |  |  |
| Ser  | Gln  | Leu  | Gly  | Glu  | His  | Pro  | Pro  | Asp  | Leu  | Asp  | Leu  | Pro  | Glu  | Asn  | Leu  |  |  |
|      | 915  |      |      |      |      |      | 920  |      |      |      |      | 925  |      |      |      |  |  |
| Val  | Arg  | Ala  | Phe  | Ser  | Ile  | Thr  | Gln  | Gly  | Leu  | Leu  | Lys  | Asp  | Arg  | Leu  | Leu  |  |  |
|      | 930  |      |      |      |      | 935  |      |      |      |      | 940  |      |      |      |      |  |  |
| Cys  | Ser  | Gly  | His  | Asp  | Val  | Ser  | Asp  | Gly  | Gly  | Leu  | Val  | Thr  | Cys  | Leu  | Leu  |  |  |
| 945  |      |      |      |      | 950  |      |      |      |      | 955  |      |      |      |      | 960  |  |  |
| Glu  | Met  | Ala  | Phe  | Ala  | Gly  | Asn  | Cys  | Gly  | Leu  | Gln  | Val  | Asp  | Val  | Pro  | Val  |  |  |
|      |      |      |      | 965  |      |      |      |      | 970  |      |      |      |      | 975  |      |  |  |
| Pro  | Arg  | Val  | Asp  | Val  | Leu  | Ser  | Val  | Leu  | Phe  | Ala  | Glu  | Glu  | Pro  | Gly  | Leu  |  |  |
|      |      | 980  |      |      |      |      |      | 985  |      |      |      |      | 990  |      |      |  |  |
| Val  | Leu  | Glu  | Val  | Gln  | Glu  | Pro  | Asp  | Leu  | Ala  | Gln  | Val  | Leu  | Lys  | Arg  | Tyr  |  |  |
|      | 995  |      |      |      |      | 1000 |      |      |      |      | 1005 |      |      |      |      |  |  |
| Arg  | Asp  | Ala  | Gly  | Leu  | His  | Cys  | Leu  | Glu  | Leu  | Gly  | His  | Thr  | Gly  | Glu  | Ala  |  |  |
|      | 1010 |      |      |      | 1015 |      |      |      |      | 1020 |      |      |      |      |      |  |  |
| Gly  | Pro  | His  | Ala  | Met  | Val  | Arg  | Val  | Ser  | Val  | Asn  | Gly  | Ala  | Val  | Val  | Leu  |  |  |
| 1025 |      |      |      |      | 1030 |      |      |      |      | 1035 |      |      |      |      | 1040 |  |  |
| Glu  | Glu  | Pro  | Val  | Gly  | Glu  | Leu  | Arg  | Ala  | Leu  | Trp  | Glu  | Glu  | Thr  | Ser  | Phe  |  |  |
|      |      |      | 1045 |      |      |      |      | 1050 |      |      |      |      | 1055 |      |      |  |  |
| Gln  | Leu  | Asp  | Arg  | Leu  | Gln  | Ala  | Glu  | Pro  | Arg  | Cys  | Val  | Ala  | Glu  | Glu  | Glu  |  |  |
|      |      | 1060 |      |      |      |      | 1065 |      |      |      |      | 1070 |      |      |      |  |  |
| Arg  | Gly  | Leu  | Arg  | Glu  | Arg  | Met  | Gly  | Pro  | Ser  | Tyr  | Cys  | Leu  | Pro  | Pro  | Thr  |  |  |
|      | 1075 |      |      |      |      | 1080 |      |      |      |      | 1085 |      |      |      |      |  |  |
| Phe  | Pro  | Lys  | Ala  | Ser  | Val  | Pro  | Arg  | Glu  | Pro  | Gly  | Gly  | Pro  | Ser  | Pro  | Arg  |  |  |
|      | 1090 |      |      |      | 1095 |      |      |      |      | 1100 |      |      |      |      |      |  |  |
| Val  | Ala  | Ile  | Leu  | Arg  | Glu  | Glu  | Gly  | Ser  | Asn  | Gly  | Asp  | Arg  | Glu  | Met  | Ala  |  |  |
| 1105 |      |      |      | 1110 |      |      |      |      | 1115 |      |      |      |      | 1120 |      |  |  |
| Asp  | Ala  | Phe  | His  | Leu  | Ala  | Gly  | Phe  | Glu  | Val  | Trp  | Asp  | Val  | Thr  | Met  | Gln  |  |  |
|      |      |      | 1125 |      |      |      |      | 1130 |      |      |      |      | 1135 |      |      |  |  |
| Asp  | Leu  | Cys  | Ser  | Gly  | Ala  | Ile  | Gly  | Leu  | Asp  | Thr  | Phe  | Arg  | Gly  | Val  | Ala  |  |  |
|      |      | 1140 |      |      |      |      | 1145 |      |      |      |      |      | 1150 |      |      |  |  |
| Phe  | Val  | Gly  | Gly  | Phe  | Ser  | Tyr  | Ala  | Asp  | Val  | Leu  | Gly  | Ser  | Ala  | Lys  | Gly  |  |  |
|      | 1155 |      |      |      |      | 1160 |      |      |      | 1165 |      |      |      |      |      |  |  |
| Trp  | Ala  | Ala  | Ala  | Val  | Thr  | Phe  | His  | Pro  | Arg  | Ala  | Gly  | Ala  | Glu  | Leu  | Arg  |  |  |
|      | 1170 |      |      |      | 1175 |      |      |      |      | 1180 |      |      |      |      |      |  |  |
| Arg  | Phe  | Arg  | Lys  | Arg  | Pro  | Asp  | Thr  | Phe  | Ser  | Leu  | Gly  | Val  | Cys  | Asn  | Gly  |  |  |
| 1185 |      |      |      | 1190 |      |      |      |      | 1195 |      |      |      |      | 1200 |      |  |  |
| Cys  | Gln  | Leu  | Leu  | Ala  | Leu  | Leu  | Gly  | Trp  | Val  | Gly  | Gly  | Asp  | Pro  | Asn  | Glu  |  |  |
|      |      |      | 1205 |      |      |      | 1210 |      |      |      |      | 1215 |      |      |      |  |  |
| Asp  | Ala  | Ala  | Glu  | Met  | Gly  | Pro  | Asp  | Ser  | Gln  | Pro  | Ala  | Arg  | Pro  | Gly  | Leu  |  |  |
|      |      | 1220 |      |      |      |      | 1225 |      |      |      |      | 1230 |      |      |      |  |  |
| Leu  | Leu  | Arg  | His  | Asn  | Leu  | Ser  | Gly  | Arg  | Tyr  | Glu  | Ser  | Arg  | Trp  | Ala  | Ser  |  |  |
|      |      | 1235 |      |      |      |      | 1240 |      |      |      |      | 1245 |      |      |      |  |  |
| Val  | Arg  | Val  | Gly  | Pro  | Gly  | Pro  | Ala  | Leu  | Met  | Leu  | Arg  | Gly  | Met  | Glu  | Gly  |  |  |
|      | 1250 |      |      |      | 1255 |      |      |      |      | 1260 |      |      |      |      |      |  |  |
| Ala  | Val  | Leu  | Pro  | Val  | Trp  | Ser  | Ala  | His  | Gly  | Glu  | Gly  | Tyr  | Val  | Ala  | Phe  |  |  |
| 1265 |      |      |      | 1270 |      |      |      |      | 1275 |      |      |      |      | 1280 |      |  |  |
| Ser  | Ser  | Pro  | Glu  | Leu  | Gln  | Ala  | Gln  | Ile  | Glu  | Ala  | Arg  | Gly  | Leu  | Ala  | Pro  |  |  |
|      |      |      | 1285 |      |      |      |      | 1290 |      |      |      |      | 1295 |      |      |  |  |
| Leu  | His  | Trp  | Ala  | Asp  | Asp  | Asp  | Gly  | Asn  | Pro  | Thr  | Glu  | Gln  | Tyr  | Pro  | Leu  |  |  |
|      |      | 1300 |      |      |      |      | 1305 |      |      |      |      | 1310 |      |      |      |  |  |
| Asn  | Pro  | Asn  | Gly  | Ser  | Pro  | Gly  | Gly  | Val  | Ala  | Gly  | Ile  | Cys  | Ser  | Cys  | Asp  |  |  |



1315 1320 1325  
 Gly Arg His Leu Ala Val Met Pro His Pro Glu Arg Ala Val Arg Pro  
 1330 1335 1340  
 Trp Gln Trp Ala Trp Arg Pro Pro Pro Phe Asp Thr Leu Thr Thr Ser  
 1345 1350 1355 1360  
 Pro Trp Leu Gln Leu Phe Ile Asn Ala Arg Asn Trp Thr Leu Glu Gly  
 1365 1370 1375  
 Ser Cys  
 1378

<210> 3293  
 <211> 192  
 <212> PRT  
 <213> Homo sapiens

<400> 3293  
 Gly Val Arg Gly Phe Trp Ala Gly Thr Met Ala Ser Arg Ala Gly Pro  
 1 5 10 15  
 Arg Ala Ala Gly Thr Asp Gly Ser Asp Phe Gln His Arg Glu Arg Val  
 20 25 30  
 Ala Met His Tyr Gln Met Ser Val Thr Leu Lys Tyr Glu Ile Lys Lys  
 35 40 45  
 Leu Ile Tyr Val His Leu Val Ile Trp Leu Leu Leu Val Ala Lys Met  
 50 55 60  
 Ser Val Gly His Leu Arg Leu Leu Ser His Asp Gln Val Ala Met Pro  
 65 70 75 80  
 Tyr Gln Trp Glu Tyr Pro Tyr Leu Leu Ser Ile Leu Pro Ser Leu Leu  
 85 90 95  
 Gly Leu Leu Ser Phe Pro Arg Asn Asn Ile Ser Tyr Leu Val Leu Ser  
 100 105 110  
 Met Ile Ser Met Gly Leu Phe Ser Ile Ala Pro Leu Ile Tyr Gly Ser  
 115 120 125  
 Met Glu Met Phe Pro Ala Ala Gln Gln Leu Tyr Arg His Gly Lys Ala  
 130 135 140  
 Tyr Arg Phe Leu Phe Gly Phe Ser Ala Val Ser Ile Met Tyr Leu Val  
 145 150 155 160  
 Leu Val Leu Ala Val Gln Val His Ala Trp Gln Leu Tyr Tyr Ser Lys  
 165 170 175  
 Lys Leu Leu Asp Ser Trp Phe Thr Ser Thr Gln Glu Lys Lys His Lys  
 180 185 190 192

<210> 3294  
 <211> 595  
 <212> PRT  
 <213> Homo sapiens

<400> 3294  
 Ser Gln Arg Ser Cys Pro Arg Ser Pro Ser Ser Pro Ala Pro Pro Trp  
 1 5 10 15  
 Ala Arg Cys Ser Asn Pro Asp Ser Arg Thr Gly Gly Val Pro Val Pro  
 20 25 30  
 Arg Ala Trp Ser Ala Gly Gly Pro Ala Leu Gly Leu Met Ala Ala Pro  
 35 40 45  
 Val Arg Leu Gly Arg Lys Arg Pro Leu Pro Ala Cys Pro Asn Pro Leu  
 50 55 60  
 Phe Val Arg Trp Leu Thr Glu Trp Arg Asp Glu Ala Thr Arg Ser Arg

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| His | Arg | Thr | Arg | Phe | Val | Phe | Gln | Lys | Ala | Leu | Arg | Ser | Leu | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |
| Tyr | Pro | Leu | Pro | Leu | Arg | Ser | Gly | Lys | Glu | Ala | Lys | Ile | Leu | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |
| Phe | Gly | Asp | Gly | Leu | Cys | Arg | Met | Leu | Asp | Glu | Arg | Leu | Gln | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     | His |
| Arg | Thr | Ser | Gly | Gly | Asp | His | Ala | Pro | Asp | Ser | Pro | Ser | Gly | Glu |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     | Asn |
| Ser | Pro | Ala | Pro | Gln | Gly | Arg | Leu | Ala | Glu | Val | Gln | Asp | Ser | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | Met |
| Pro | Val | Pro | Ala | Gln | Pro | Lys | Ala | Gly | Gly | Ser | Gly | Ser | Tyr | Trp |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | Pro |
| Ala | Arg | His | Ser | Gly | Ala | Arg | Val | Ile | Leu | Leu | Val | Leu | Tyr | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 | Glu |
| His | Leu | Asn | Pro | Asn | Gly | His | His | Phe | Leu | Thr | Lys | Glu | Glu | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     | Leu |
| Gln | Arg | Cys | Ala | Gln | Lys | Ser | Pro | Arg | Val | Ala | Pro | Gly | Ser | Ala |
|     |     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     | Arg |
| Pro | Trp | Pro | Ala | Leu | Arg | Ser | Leu | Leu | His | Arg | Asn | Leu | Val | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | Arg |
| Thr | His | Gln | Pro | Ala | Arg | Tyr | Ser | Leu | Thr | Pro | Glu | Gly | Leu | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | Leu |
| Ala | Gln | Lys | Leu | Ala | Glu | Ser | Glu | Gly | Leu | Ser | Leu | Leu | Asn | Val |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 | Gly |
| Ile | Gly | Pro | Lys | Glu | Pro | Pro | Gly | Glu | Glu | Thr | Ala | Val | Pro | Gly |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     | Ala |
| Ala | Ser | Ala | Glu | Leu | Ala | Ser | Glu | Ala | Gly | Val | Gln | Gln | Gln | Pro |
|     |     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     | Leu |
| Glu | Leu | Arg | Pro | Gly | Glu | Tyr | Arg | Val | Leu | Leu | Cys | Val | Asp | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | Gly |
| Glu | Thr | Arg | Gly | Gly | Gly | His | Arg | Pro | Glu | Leu | Leu | Arg | Glu | Leu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | Gln |
| Arg | Leu | His | Val | Thr | His | Thr | Val | Arg | Lys | Leu | His | Val | Gly | Asp |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 | Phe |
| Val | Trp | Val | Ala | Gln | Glu | Thr | Asn | Pro | Arg | Asp | Pro | Ala | Asn | Pro |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     | Gly |
| Glu | Leu | Val | Leu | Asp | His | Ile | Val | Glu | Arg | Lys | Arg | Leu | Asp | Asp |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     | Leu |
| Cys | Ser | Ser | Ile | Ile | Asp | Gly | Arg | Phe | Arg | Glu | Gln | Lys | Phe | Arg |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | Leu |
| Lys | Arg | Cys | Gly | Leu | Glu | Arg | Arg | Val | Tyr | Leu | Val | Glu | Glu | His |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | Gly |
| Ser | Val | His | Asn | Leu | Ser | Leu | Pro | Glu | Ser | Thr | Leu | Leu | Gln | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 | Val |
| Thr | Asn | Thr | Gln | Val | Ile | Asp | Gly | Phe | Phe | Val | Lys | Arg | Thr | Ala |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     | Asp |
| Ile | Lys | Glu | Ser | Ala | Ala | Tyr | Leu | Ala | Leu | Leu | Thr | Arg | Gly | Leu |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     | Gln |
| Arg | Leu | Tyr | Gln | Gly | His | Thr | Leu | Arg | Ser | Arg | Pro | Trp | Gly | Thr |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | Pro |
| Gly | Asn | Pro | Glu | Ser | Gly | Ala | Met | Thr | Ser | Pro | Asn | Pro | Leu | Cys |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     | 495 | Ser |
| Leu | Leu | Thr | Phe | Ser | Asp | Phe | Asn | Ala | Gly | Ala | Ile | Lys | Asn | Lys |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 | Ala |
| Gln | Ser | Val | Arg | Glu | Val | Phe | Ala | Arg | Gln | Leu | Met | Gln | Val | Arg |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     | Gly |
| Val | Ser | Gly | Glu | Lys | Ala | Ala | Ala | Leu | Val | Asp | Arg | Tyr | Ser | Thr |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     | Pro |
| Ala | Ser | Leu | Leu | Ala | Ala | Tyr | Asp | Ala | Cys | Ala | Thr | Pro | Lys | Glu |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | Gln |
| Glu | Thr | Leu | Leu | Ser | Thr | Ile | Lys | Cys | Gly | Arg | Leu | Gln | Arg | Asn |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 | Leu |
| Gly | Pro | Ala | Leu | Ser | Arg | Thr | Leu | Ser | Gln | Leu | Tyr | Cys | Ser | Tyr |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | Gly |

Pro Leu Thr  
595

580

585

590

<210> 3295  
<211> 371  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 3295

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Phe | His | Pro | His | Thr | Gln | Val | Ser | Gly | Leu | Leu | Thr | Pro | Gln | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Glu | Pro | Asp | Val | Trp | Ser | Pro | Ser | Arg | Gly | Gln | Pro | Val | Ser | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Leu | Pro | Gly | Lys | Gly | Ala | Pro | Glu | Val | Lys | Glu | Met | Ala | Trp | Trp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Ser | Trp | Ile | Glu | Gln | Glu | Gly | Val | Thr | Val | Lys | Ser | Ser | Ser | His |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Asn | Pro | Asp | Pro | Asp | Ala | Glu | Thr | Leu | Tyr | Lys | Ala | Met | Lys | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Gly | Thr | Asn | Glu | Gln | Ala | Ile | Ile | Asp | Val | Leu | Thr | Lys | Arg | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Thr | Gln | Arg | Gln | Gln | Ile | Ala | Lys | Ser | Phe | Lys | Ala | Gln | Phe | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Asp | Leu | Thr | Glu | Thr | Leu | Lys | Ser | Glu | Leu | Ser | Gly | Lys | Phe | Glu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Leu | Ile | Val | Ala | Leu | Met | Tyr | Pro | Pro | Tyr | Arg | Tyr | Glu | Ala | Lys |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Leu | His | Asp | Ala | Met | Lys | Gly | Leu | Gly | Thr | Lys | Glu | Gly | Val | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Glu | Ile | Leu | Ala | Ser | Arg | Thr | Lys | Asn | Gln | Leu | Arg | Glu | Ile | Met |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Ala | Tyr | Glu | Glu | Asp | Tyr | Gly | Ser | Ser | Leu | Glu | Glu | Asp | Ile | Gln |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Ala | Asp | Thr | Ser | Gly | Tyr | Leu | Glu | Arg | Ile | Leu | Val | Cys | Leu | Leu | Gln |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Ser | Arg | Asp | Asp | Val | Ser | Ser | Phe | Val | Asp | Pro | Ala | Leu | Ala | Leu |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Asp | Ala | Gln | Asp | Leu | Tyr | Ala | Ala | Gly | Glu | Lys | Ile | Arg | Gly | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Glu | Met | Lys | Phe | Ile | Thr | Ile | Leu | Cys | Thr | Arg | Ser | Ala | Thr | His |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Leu | Leu | Arg | Val | Phe | Glu | Glu | Tyr | Glu | Lys | Ile | Ala | Asn | Lys | Ser | Ile |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Asp | Ser | Ile | Lys | Ser | Glu | Thr | His | Gly | Ser | Leu | Glu | Glu | Ala | Met |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Leu | Thr | Val | Val | Lys | Cys | Thr | Gln | Asn | Leu | His | Ser | Tyr | Phe | Ala | Glu |
| 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Arg | Leu | Tyr | Tyr | Ala | Met | Lys | Gly | Ala | Gly | Thr | Arg | Asp | Gly | Thr | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ile | Arg | Asn | Ile | Val | Ser | Arg | Ser | Glu | Ile | Asp | Leu | Asn | Leu | Ile | Lys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Cys | His | Phe | Lys | Lys | Met | Tyr | Gly | Lys | Thr | Leu | Ser | Ser | Met | Ile | Met |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |     |
| Glu | Asp | Thr | Ser | Gly | Asp | Tyr | Lys | Asn | Ala | Leu | Leu | Ser | Leu | Val | Gly |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Asp | Pro |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 370 | 371 |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3296  
 <211> 279  
 <212> PRT  
 <213> Homo sapiens

<400> 3296  
 Gly Thr Arg Gly Gly Val Gly Pro Gly Asp Asn Gly Gly Val Glu Ala  
 1 5 10 15  
 Gly Ala Lys Pro Gly Ala Ala Ala Ile Pro Leu Arg Gly Asp Gly Ser  
 20 25 30  
 Gly Glu Thr Gly Pro Gly Arg Val Ala Pro Gly Glu Val Arg Gly Ser  
 35 40 45  
 Pro Arg Gly His Val Ala Gly Pro Glu Gly Pro Arg Glu Val Leu Phe  
 50 55 60  
 Phe Phe Phe Leu Pro Ser Ser Lys Pro Ala Ser Glu Val Ile Asn Glu  
 65 70 75 80  
 Tyr Ser Trp Lys Val Asp Phe Leu Lys Gly Met Leu Gln Ala Glu Lys  
 85 90 95  
 Leu Thr Ser Ser Ser Glu Lys Ala Leu Ala Asn Gln Phe Leu Ala Pro  
 100 105 110  
 Gly Arg Val Pro Thr Thr Ala Arg Glu Arg Val Pro Ala Thr Lys Thr  
 115 120 125  
 Val His Leu Gln Ser Arg Ala Arg Tyr Thr Ser Glu Met Arg Ser Glu  
 130 135 140  
 Leu Leu Gly Thr Asp Ser Ala Glu Pro Glu Met Asp Val Arg Lys Arg  
 145 150 155 160  
 Thr Gly Val Ala Gly Ser Gln Pro Val Ser Glu Lys Gln Ser Ala Ala  
 165 170 175  
 Glu Leu Asp Leu Val Leu Gln Arg His Gln Asn Leu Gln Glu Lys Leu  
 180 185 190  
 Ala Glu Glu Met Leu Gly Leu Ala Arg Ser Leu Lys Thr Asn Thr Leu  
 195 200 205  
 Ala Ala Gln Ser Val Ile Lys Lys Asp Asn Gln Thr Leu Ser His Ser  
 210 215 220  
 Leu Lys Met Ala Asp Gln Asn Leu Glu Lys Leu Lys Thr Glu Ser Glu  
 225 230 235 240  
 Arg Leu Glu Gln His Thr Gln Lys Ser Val Asn Trp Leu Leu Trp Ala  
 245 250 255  
 Met Leu Ile Ile Val Cys Phe Ile Phe Ile Ser Met Ile Leu Phe Ile  
 260 265 270  
 Arg Ile Met Pro Lys Leu Lys  
 275 279

<210> 3297  
 <211> 190  
 <212> PRT  
 <213> Homo sapiens

<400> 3297  
 His Lys Gln Pro Ala Gly Phe Leu Gly Leu Trp Leu Gly Thr Glu Thr  
 1 5 10 15  
 Tyr Thr Ile Ser Phe Pro Gly Pro Glu Thr Phe Gly Leu Gly Leu Ser  
 20 25 30  
 His Ala Thr Gly Ile Pro Gly Ser Pro Ala Cys Arg Gln Pro Val Val  
 35 40 45  
 Gly Leu His Ser Leu His Asn Tyr Arg Met Ala Met Val Ser Ala Met  
 50 55 60  
 Ser Trp Val Leu Tyr Leu Trp Ile Ser Ala Cys Ala Met Leu Leu Cys  
 65 70 75 80  
 His Gly Ser Leu Gln His Thr Phe Gln Gln His His Leu His Arg Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Glu | Gly | Gly | Thr | Cys | Glu | Val | Ile | Ala | Ala | His | Arg | Cys | Cys | Asn | Lys |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |
| Asn | Arg | Ile | Glu | Glu | Arg | Ser | Gln | Thr | Val | Lys | Cys | Ser | Cys | Leu | Pro |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |  |
| Gly | Lys | Val | Ala | Gly | Thr | Thr | Arg | Asn | Arg | Pro | Ser | Cys | Val | Asp | Ala |  |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |  |
| Ser | Ile | Val | Ile | Gly | Lys | Trp | Trp | Cys | Glu | Met | Glu | Pro | Cys | Leu | Glu |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |  |
| Gly | Glu | Glu | Cys | Lys | Thr | Leu | Pro | Asp | Asn | Ser | Gly | Trp | Met | Cys | Ala |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |
| Thr | Gly | Asn | Lys | Ile | Lys | Thr | Thr | Arg | Ile | His | Pro | Arg | Thr |     |     |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |

<210> 3298  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Ile | Gln | Pro | Pro | Asp | Pro | Arg | Asn | Met | Thr | Leu | Ala | Ala | Tyr | Lys | Glu |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |
| Lys | Met | Lys | Glu | Leu | Pro | Leu | Val | Ser | Leu | Phe | Cys | Ser | Cys | Phe | Leu |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ala | Asp | Pro | Leu | Asn | Lys | Ser | Ser | Tyr | Lys | Tyr | Glu | Ala | Asp | Thr | Val |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |
| Asp | Leu | Asn | Trp | Cys | Val | Ile | Ser | Asp | Met | Glu | Val | Ile | Glu | Leu | Asn |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |
| Lys | Cys | Thr | Ser | Gly | Gln | Ser | Phe | Glu | Val | Ile | Leu | Lys | Pro | Pro | Ser |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |
| Phe | Asp | Gly | Val | Pro | Glu | Phe | Asn | Ala | Ser | Leu | Pro | Arg | Arg | Arg | Asp |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |
| Pro | Ser | Leu | Glu | Glu | Ile | Gln | Lys | Lys | Leu | Glu | Ala | Ala | Glu | Glu | Arg |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Arg | Lys | Tyr | Gln | Glu | Ala | Glu | Leu | Leu | Lys | His | Leu | Ala | Glu | Lys | Arg |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Glu | His | Glu | Arg | Glu | Val | Ile | Gln | Lys | Ala | Ile | Glu | Glu | Asn | Asn | Asn |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Phe | Ile | Lys | Met | Ala | Lys | Glu | Lys | Leu | Ala | Gln | Lys | Met | Glu | Ser | Asn |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |  |
| Lys | Glu | Asn | Arg | Glu | Ala | His | Leu | Ala | Ala | Met | Leu | Glu | Arg | Leu | Gln |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |
| Glu | Lys | Asp | Lys | His | Ala | Glu | Glu | Val | Arg | Lys | Asn | Lys | Glu | Leu | Lys |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Glu | Glu | Ala | Ser | Arg |     |     |     |     |     |     |     |     |     |     |     |  |
|     |     | 195 |     | 197 |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 3299  
 <211> 295  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Thr | Gln | Leu | Pro | Ala | Pro | Leu | Ser | Gly | Val | Leu | Ser | Arg | Leu | Gln | Leu |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |
| Gly | Ser | Gly | Ala | Pro | Leu | Leu | Thr | Trp | Val | Gln | Glu | Thr | Ala | Gly | Val |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ala | Gly | Gly | Ala | Pro | Arg | Arg | Arg | Thr | Pro | Val | Thr | Met | Trp | Arg | Leu |  |

|                             |                     |                 |
|-----------------------------|---------------------|-----------------|
| 35                          | 40                  | 45              |
| Leu Ala Arg Ala Ser Ala Pro | Leu Leu Arg Val Pro | Leu Ser Asp Ser |
| 50                          | 55                  | 60              |
| Trp Ala Leu Leu Pro Ala Ser | Ala Gly Val Lys Thr | Leu Leu Pro Val |
| 65                          | 70                  | 75              |
| Pro Ser Phe Glu Asp Val Ser | Ile Pro Glu Lys Pro | Lys Leu Arg Phe |
| 85                          | 90                  | 95              |
| Ile Glu Arg Ala Pro Leu Val | Pro Lys Val Arg Arg | Glu Pro Lys Asn |
| 100                         | 105                 | 110             |
| Leu Ser Asp Ile Arg Gly Pro | Ser Thr Glu Ala Thr | Glu Phe Thr Glu |
| 115                         | 120                 | 125             |
| Gly Asn Phe Ala Ile Leu Ala | Leu Gly Gly Gly Tyr | Leu His Trp Gly |
| 130                         | 135                 | 140             |
| His Phe Glu Met Met Arg Leu | Thr Ile Asn Arg Ser | Met Asp Pro Lys |
| 145                         | 150                 | 155             |
| Asn Met Phe Ala Ile Trp Arg | Val Pro Ala Pro Phe | Lys Pro Ile Thr |
| 165                         | 170                 | 175             |
| Arg Lys Ser Val Gly His Arg | Met Gly Gly Gly Lys | Gly Ala Ile Asp |
| 180                         | 185                 | 190             |
| His Tyr Val Thr Pro Val Lys | Ala Gly Arg Leu Val | Val Glu Met Gly |
| 195                         | 200                 | 205             |
| Gly Arg Cys Glu Phe Glu Glu | Val Gln Gly Phe Leu | Asp Gln Val Ala |
| 210                         | 215                 | 220             |
| His Lys Leu Pro Phe Ala Ala | Lys Ala Val Ser Arg | Gly Thr Leu Glu |
| 225                         | 230                 | 235             |
| Lys Met Arg Lys Asp Gln Glu | Glu Arg Glu Arg Asn | Asn Gln Asn Pro |
| 245                         | 250                 | 255             |
| Trp Thr Phe Glu Arg Ile Ala | Thr Ala Asn Met Leu | Gly Ile Arg Lys |
| 260                         | 265                 | 270             |
| Val Leu Ser Pro Tyr Asp Leu | Thr His Lys Gly Lys | Tyr Trp Gly Lys |
| 275                         | 280                 | 285             |
| Phe Tyr Met Pro Lys Arg Val |                     |                 |
| 290                         | 295                 |                 |

<210> 3300  
 <211> 615  
 <212> PRT  
 <213> Homo sapiens

<400> 3300

|   |     |
|---|-----|
| Phe Val Ala Gly Gly Pro Arg Gly Ser Gly Ser Ala Ala Glu Thr Met |     |
| 1   | 5   |
| Pro Glu Ile Arg Val Thr Pro Leu Gly Ala Gly Gln Asp Val Gly Arg |     |
| 20  | 25  |
| Ser Cys Ile Leu Val Ser Ile Ala Gly Lys Asn Val Met Leu Asp Cys |     |
| 35  | 40  |
| Gly Met His Met Gly Phe Asn Asp Asp Arg Arg Phe Pro Asp Phe Ser |     |
| 50  | 55  |
| Tyr Ile Thr Gln Asn Gly Arg Leu Thr Asp Phe Leu Asp Cys Val Ile |     |
| 65  | 70  |
| Ile Ser His Phe His Leu Asp His Cys Gly Ala Leu Pro Tyr Phe Ser |     |
| 85  | 90  |
| Glu Met Val Gly Tyr Asp Gly Pro Ile Tyr Met Thr His Pro Thr Gln |     |
| 100   | 105 |
| Ala Ile Cys Pro Ile Leu Leu Glu Asp Tyr Arg Lys Ile Ala Val Asp |     |
| 115   | 120 |
| Lys Lys Gly Glu Ala Asn Phe Phe Thr Ser Gln Met Ile Lys Asp Cys |     |
| 130   | 135 |
| Met Lys Lys Val Val Ala Val His Leu His Gln Thr Val Gln Val Asp |     |
| 145   | 150 |
| Asp Glu Leu Glu Ile Lys Ala Tyr Tyr Ala Gly His Val Leu Gly Ala |     |
|   | 155 |
|   | 160 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Ala | Met | Phe | Gln | Ile | Lys | Val | Gly | Ser | Glu | Ser | Val | Val | Tyr | Thr | Gly |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Asp | Tyr | Asn | Met | Thr | Pro | Asp | Arg | His | Leu | Gly | Ala | Ala | Trp | Ile | Asp |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Lys | Cys | Arg | Pro | Asn | Leu | Leu | Ile | Thr | Glu | Ser | Thr | Tyr | Ala | Thr | Thr |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Ile | Arg | Asp | Ser | Lys | Arg | Cys | Arg | Glu | Arg | Asp | Phe | Leu | Lys | Lys | Val |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| His | Glu | Thr | Val | Glu | Arg | Gly | Gly | Lys | Val | Leu | Ile | Pro | Val | Phe | Ala |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |  |  |
| Leu | Gly | Arg | Ala | Gln | Glu | Leu | Cys | Ile | Leu | Leu | Glu | Thr | Phe | Trp | Glu |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Arg | Met | Asn | Leu | Lys | Val | Pro | Ile | Tyr | Phe | Ser | Thr | Gly | Leu | Thr | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Lys | Ala | Asn | His | Tyr | Tyr | Lys | Leu | Phe | Ile | Pro | Trp | Thr | Asn | Gln | Lys |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ile | Arg | Lys | Thr | Phe | Val | Gln | Arg | Asn | Met | Phe | Glu | Phe | Lys | His | Ile |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Lys | Ala | Phe | Asp | Arg | Ala | Phe | Ala | Asp | Asn | Pro | Gly | Pro | Met | Val | Val |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Phe | Ala | Thr | Pro | Gly | Met | Leu | His | Ala | Gly | Gln | Ser | Leu | Gln | Ile | Phe |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Arg | Lys | Trp | Ala | Gly | Asn | Glu | Lys | Asn | Met | Val | Ile | Met | Pro | Gly | Tyr |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Cys | Val | Gln | Gly | Thr | Val | Gly | His | Lys | Ile | Leu | Ser | Gly | Gln | Arg | Lys |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Leu | Glu | Met | Glu | Gly | Arg | Gln | Val | Leu | Glu | Val | Lys | Met | Gln | Val | Glu |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Tyr | Met | Ser | Phe | Ser | Ala | His | Ala | Asp | Ala | Lys | Gly | Ile | Met | Gln | Leu |  |  |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |
| Val | Gly | Gln | Ala | Glu | Pro | Glu | Ser | Val | Leu | Leu | Val | His | Gly | Glu | Ala |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |  |  |
| Lys | Lys | Met | Glu | Phe | Leu | Lys | Gln | Lys | Ile | Glu | Gln | Glu | Leu | Arg | Val |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Asn | Cys | Tyr | Met | Pro | Ala | Asn | Gly | Glu | Thr | Val | Thr | Leu | Pro | Thr | Ser |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Pro | Ser | Ile | Pro | Val | Gly | Ile | Ser | Leu | Gly | Leu | Leu | Lys | Arg | Glu | Met |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Ala | Gln | Gly | Leu | Leu | Pro | Glu | Ala | Lys | Lys | Pro | Arg | Leu | Leu | His | Gly |  |  |
|     |     |     |     | 485 |     |     |     | 490 |     |     |     |     |     | 495 |     |  |  |
| Thr | Leu | Ile | Met | Lys | Asp | Ser | Asn | Phe | Arg | Leu | Val | Ser | Ser | Glu | Gln |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Ala | Leu | Lys | Glu | Leu | Gly | Leu | Ala | Glu | His | Gln | Leu | Arg | Phe | Thr | Cys |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Arg | Val | His | Leu | His | Asp | Thr | Arg | Lys | Glu | Gln | Glu | Thr | Ala | Leu | Arg |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Val | Tyr | Ser | His | Leu | Lys | Ser | Val | Leu | Lys | Asp | His | Cys | Val | Gln | His |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Leu | Pro | Asp | Gly | Ser | Val | Thr | Val | Glu | Ser | Val | Leu | Leu | Gln | Ala | Ala |  |  |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Ala | Pro | Ser | Glu | Asp | Pro | Gly | Thr | Lys | Val | Leu | Leu | Val | Ser | Trp | Thr |  |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Tyr | Gln | Asp | Glu | Glu | Leu | Gly | Ser | Phe | Leu | Thr | Ser | Leu | Leu | Lys | Lys |  |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Gly | Leu | Pro | Gln | Ala | Pro | Ser |     |     |     |     |     |     |     |     |     |  |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3301

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3301

Cys Ile Arg Thr Glu Pro Ala Ala Ala Phe Arg Arg Leu Gly Ala Leu  
 1 5 10 15  
 Ser Gly Ala Ala Ala Leu Gly Phe Ala Ser Tyr Gly Ala His Gly Ala  
 20 25 30  
 Gln Phe Pro Asp Ala Tyr Gly Lys Glu Leu Phe Asp Lys Ala Asn Lys  
 35 40 45  
 His His Phe Leu His Ser Leu Ala Leu Leu Gly Val Pro His Cys Arg  
 50 55 60  
 Lys Pro Leu Trp Ala Gly Leu Leu Leu Ala Ser Gly Thr Thr Leu Phe  
 65 70 75 80  
 Cys Thr Ser Phe Tyr Tyr Gln Ala Leu Ser Gly Asp Pro Ser Ile Gln  
 85 90 95  
 Thr Leu Ala Pro Ala Gly Gly Thr Leu Leu Leu Gly Trp Leu Ala  
 100 105 110  
 Leu Ala Leu  
 115

&lt;210&gt; 3302

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3302

Leu Arg Arg Asn Cys Ser Ala Leu Gly Gly Leu Phe Gln Thr Ile Ile  
 1 5 10 15  
 Ser Asp Met Lys Gly Ser Tyr Pro Val Trp Glu Asp Phe Ile Asn Lys  
 20 25 30  
 Ala Gly Lys Leu Gln Ser Gln Leu Arg Thr Thr Val Val Ala Ala Ala  
 35 40 45  
 Ala Phe Leu Asp Ala Phe Gln Lys Val Ala Asp Met Ala Thr Asn Thr  
 50 55 60  
 Arg Gly Gly Thr Arg Glu Ile Gly Ser Ala Leu Thr Arg Met Cys Met  
 65 70 75 80  
 Arg His Arg Ser Ile Glu Ala Lys Leu Arg Gln Phe Ser Ser Ala Leu  
 85 90 95  
 Ile Asp Cys Leu Ile Asn Pro Leu Gln Glu Gln Met Glu Glu Trp Lys  
 100 105 110  
 Lys Val Ala Asn Gln Leu Asp Lys Asp His Ala Lys Glu Tyr Lys Lys  
 115 120 125  
 Ala Arg Gln Glu Ile Lys Lys Lys Ser Ser Asp Thr Leu Lys Leu Gln  
 130 135 140  
 Lys Lys Ala Lys Lys Gly Arg Gly Asp Ile Gln Pro Gln Leu Asp Ser  
 145 150 155 160  
 Ala Leu Gln Asp Val Asn Asp Lys Tyr Leu Leu Leu Glu Glu Thr Glu  
 165 170 175  
 Lys Gln Ala Val Arg Lys Ala Leu Ile Glu Glu Arg Gly Arg Phe Cys  
 180 185 190  
 Thr Phe Ile Ser Met Leu Arg Pro Val Ile Glu Glu Glu Ile Ser Met  
 195 200 205  
 Leu Gly Glu Ile Thr His Leu Gln Thr Ile Ser Glu Asp Leu Lys Ser  
 210 215 220  
 Leu Thr Met Asp Pro His Lys Leu Pro Ser Ser Ser Glu Gln Val Ile  
 225 230 235 240  
 Leu Asp Leu Lys Gly Ser Asp Tyr Ser Trp Ser Tyr Gln Thr Pro Pro  
 245 250 255  
 Ser Ser Pro Ser Thr Thr Met Ser Arg Lys Ser Ser Val Cys Ser Ser  
 260 265 270  
 Leu Asn Ser Val Asn Ser Ser Asp Ser Arg Ser Ser Gly Ser His Ser

|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| His Ser Pro Ser Ser His Tyr Arg Tyr Arg Ser Ser Asn Leu Ala Gln |     |     |
| 290   | 295 | 300 |
| Gln Ala Pro Val Arg Leu Ser Ser Val Ser Ser His Asp Ser Gly Phe |     |     |
| 305   | 310 | 315 |
| Ile Ser Gln Asp Ala Phe Gln Ser Lys Ser Pro Ser Pro Met Pro Pro |     |     |
|   | 325 | 330 |
| Glu Ala Pro Asn Gln Arg Arg Lys Glu Lys Arg Glu Pro Asp Pro Asn |     |     |
|   | 340 | 345 |
| Gly Gly Gly Pro Thr Thr Ala Ser Gly Pro Pro Ala Ala Ala Glu Glu |     |     |
|   | 355 | 360 |
| Ala Gln Arg Pro Arg Ser Met                                     |     | 365 |
| 370   | 375 |     |

<210> 3303  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 3303

|   |  |
|---|--|
| Ala Gly Arg Gly Gly Pro Gly Lys Pro Val Ser Trp Ser Ser Gly Pro |  |
| 1 5 10 15   |  |
| Gly Ser Pro Gly Gln Thr Gln Arg Arg Ser Trp Val Lys Ser Thr Arg |  |
| 20 25 30  |  |
| Gly His Ser Ser Leu Leu Pro Pro Ser Gln Asp Phe Val Ala Gly Leu |  |
| 35 40 45  |  |
| Ser Val Ile Leu Arg Gly Thr Val Asp Asp Arg Leu Asn Trp Ala Phe |  |
| 50 55 60  |  |
| Asn Leu Tyr Asp Leu Asn Lys Asp Gly Cys Ile Thr Lys Glu Glu Met |  |
| 65 70 75 80   |  |
| Leu Asp Ile Met Lys Ser Ile Tyr Asp Met Met Gly Lys Tyr Thr Tyr |  |
| 85 90 95  |  |
| Pro Ala Leu Arg Glu Glu Ala Pro Arg Glu His Val Glu Ser Phe Phe |  |
| 100 105 110   |  |
| Gln Lys Met Asp Arg Asn Lys Asp Gly Val Val Thr Ile Glu Glu Phe |  |
| 115 120 125   |  |
| Ile Glu Ser Cys Gln Lys Asp Glu Asn Ile Met Arg Ser Met Gln Leu |  |
| 130 135 140   |  |
| Phe Asp Asn Val Ile   |  |
| 145 149   |  |

<210> 3304  
 <211> 131  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(130)  
 <223> Xaa = any amino acid or nothing

<400> 3304

|   |  |
|---|--|
| Ile Ser Glu Ala Ala Ser Gly Ala Phe Gln Ala Arg Xaa Phe Tyr Gln |  |
| 1 5 10 15   |  |
| Met Leu Glu Gln Lys Thr Asp Ala Leu Gly Lys Gln Ser Val Asn Arg |  |
| 20 25 30  |  |
| Gly Phe Thr Lys Asp Lys Thr Leu Ser Ser Ile Phe Asn Ile Glu Met |  |
| 35 40 45  |  |
| Val Lys Glu Lys Thr Ala Glu Glu Ile Lys Gln Ile Trp Gln Gln Tyr |  |

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Phe Ala Ala Lys Asp Thr Val Tyr Ala Val Ile Pro Ala Glu Lys Phe |     |     |
| 65  | 70  | 75  |
| Asp Leu Ile Trp Asn Arg Ala Gln Ser Cys Pro Thr Phe Leu Cys Ala |     |     |
|   | 85  | 90  |
| Leu Pro Arg Arg Glu Gly Tyr Glu Phe Val Gly Gln Trp Thr Gly     |     |     |
|   | 100 | 105 |
| Thr Glu Leu His Phe His Cys Thr Tyr Lys Tyr Ser Asp Pro Glu Gly |     |     |
|   | 115 | 120 |
| Lys Ala   |     | 125 |
| 130   |     |     |

&lt;210&gt; 3305

&lt;211&gt; 161

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(160)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3305

|   |     |     |
|---|-----|-----|
| Leu Asp Ala Cys Ser Thr Gly Pro Tyr Ser Arg Ser Thr His Ala Ser |     |     |
| 1   | 5   | 10  |
| Ala Asp Ala Trp Ala Asp Ala Trp Val Val Val Val Leu Lys Val Val |     |     |
|   | 20  | 25  |
| Gly Met Thr Leu Phe Leu Leu Tyr Phe Pro Gln Ile Phe Asn Lys Ser |     |     |
|   | 35  | 40  |
| Asn Asp Gly Phe Thr Thr Thr Arg Ser Tyr Gly Thr Val Ser Gln Ile |     |     |
|   | 50  | 55  |
| Phe Gly Ser Arg Ser Pro Ser Pro Asn Gly Phe Ile Thr Thr Arg Ser |     |     |
|   | 65  | 70  |
| Tyr Gly Thr Val Cys Pro Lys Asp Trp Glu Phe Tyr Gln Ala Arg Cys |     |     |
|   | 85  | 90  |
| Phe Phe Leu Ile His Leu Xaa Ser Ser Trp Asn Glu Ser Trp Asp Phe |     |     |
|   | 100 | 105 |
| Cys Lys Gly Lys Gly Cys Thr Leu Ala Ile Val Asp Asn Ser Glu Thr |     |     |
|   | 115 | 120 |
| Leu Lys Leu Leu His Asp Leu His Asp Ala Glu Lys Asn Tyr Ile Ala |     |     |
|   | 130 | 135 |
| Leu Pro Tyr Arg Ser Ser Lys Tyr Met Ser Thr Cys Asn Gly Thr Phe |     |     |
|   | 145 | 150 |
|   |     | 155 |
|   |     | 160 |

&lt;210&gt; 3306

&lt;211&gt; 291

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(290)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3306

|   |   |    |
|---|---|----|
| Thr Leu Ser Ser Ala Cys Leu Ile Gly Asp Ala Trp Lys Glu Leu Thr |   |    |
| 1   | 5 | 10 |
| Ile Val Ala Gly Ala Val Ser Asn Gln Leu Leu Val Trp Tyr Pro Ala |   |    |
|   |   | 15 |

```

      20      25      30
Thr Ala Leu Ala Asp Asn Lys Pro Val Ala Pro Asp Arg Arg Ile Ser
      35      40      45
Gly His Val Gly Ile Ile Phe Ser Met Ser Tyr Leu Glu Ser Lys Gly
      50      55      60
Leu Leu Ala Thr Ala Ser Glu Asp Arg Ser Val Arg Ile Trp Lys Gly
      65      70      75      80
Gly Asp Leu Arg Val Pro Gly Gly Arg Val Gln Asn Ile Gly His Cys
      85      90      95
Phe Gly His Ser Ala Arg Val Trp Gln Val Lys Leu Leu Glu Asn Tyr
      100      105      110
Leu Ile Ser Ala Gly Glu Asp Cys Val Cys Leu Val Trp Ser His Glu
      115      120      125
Gly Glu Ile Leu Gln Ala Phe Arg Gly His Gln Gly Arg Gly Ile Arg
      130      135      140
Ala Ile Ala Ala His Glu Arg Gln Ala Trp Val Ile Thr Gly Gly Asp
      145      150      155      160
Asp Ser Gly Ile Arg Leu Trp His Leu Val Gly Arg Gly Tyr Arg Gly
      165      170      175
Leu Gly Asp Leu Gly Ser Leu Leu Gln Val Pro Xaa Xaa Ala Arg Tyr
      180      185      190
Thr Gln Gly Cys Asp Ser Gly Trp Leu Leu Ala Thr Ala Gly Ser Asp
      195      200      205
Xaa Tyr Arg Gly Pro Val Ser Leu Xaa Arg Arg Gly Gln Val Leu Gly
      210      215      220
Ala Ala Ala Arg Gly Xaa Thr Phe Pro Val Leu Leu Pro Ala Gly Gly
      225      230      235      240
Ser Ser Trp Ser Arg Gly Leu Arg Ile Val Cys Tyr Gly Gln Trp Gly
      245      250      255
Arg Ser Cys Gln Gly Cys Pro His Gln His Ser Asn Cys Cys Cys Gly
      260      265      270
Pro Asp Pro Val Ser Trp Glu Gly Ala Gln Leu Glu Leu Gly Pro Ala
      275      280      285
Trp Leu
      290

```

&lt;210&gt; 3307

&lt;211&gt; 309

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(308)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3307

```

Arg Thr Ser Arg Val Glu Lys Gly Leu Arg Lys Ala Gly Ala Ala Val
  1      5      10      15
Thr Met Glu Ser Asp Glu Trp Phe Ser Gln Ala Leu Pro Ala Asn Thr
      20      25      30
Ser Ala Gln Lys Ala Glu Leu Ile Ala Leu Thr Gln Ala Ile Arg Trp
      35      40      45
Gly Lys Asp Ile Asn Val Asn Thr Asp Ser Arg Tyr Ala Phe Ala Thr
      50      55      60
Val His Val Arg Gly Ala Ile Cys Gln Glu Arg Arg Leu Leu Thr Ser
      65      70      75      80
Ala Glu Lys Ala Ile Lys Asn Lys Asn Pro Pro Ser Ser Lys Pro Asn
      85      90      95
Arg Ser Ser Ser Phe Trp Gly Thr Thr Cys Asp Gln Val Asn Ala Lys
      100      105      110
Gln Gly Pro Lys Pro Ser Pro Gly His Arg Leu Arg Arg Asn Leu Pro

```

```
<210> 3308
<211> 196
<212> PRT
<213> Homo sapiens
```

[illegible]



<210> 3309  
 <211> 196  
 <212> PRT  
 <213> Homo sapiens

<400> 3309  
 Asn Ser Pro Ser Leu Asp Phe Asn Asp Asn Glu Asp Ile Pro Thr Glu  
 1 5 10 15  
 Leu Ser Asp Ser Ser Asp Thr His Asp Glu Gly Glu Val Gln Ala Phe  
 20 25 30  
 Tyr Glu Asp Leu Ser Gly Arg Gln Tyr Val Asn Glu Val Phe Asn Phe  
 35 40 45  
 Ser Val Asp Lys Leu Tyr Asp Leu Leu Phe Thr Asn Ser Pro Phe Gln  
 50 55 60  
 Arg Asp Phe Met Glu Gln Arg Arg Phe Ser Asp Ile Ile Phe His Pro  
 65 70 75 80  
 Trp Lys Lys Glu Glu Asn Gly Asn Gln Ser Arg Val Ile Pro Tyr Thr  
 85 90 95  
 Ile Thr Leu Thr Asn Pro Leu Glu His Lys Thr Ala Thr Val Arg Glu  
 100 105 110  
 Thr Gln Thr Met Tyr Lys Ala Ser Gln Glu Ser Glu Cys Tyr Val Ile  
 115 120 125  
 Asp Ala Glu Val Leu Thr His Asp Val Pro Tyr His Asp Tyr Phe Tyr  
 130 135 140  
 Thr Ile Asn Arg Tyr Thr Leu Thr Arg Val Ala Arg Asn Lys Ser Arg  
 145 150 155 160  
 Leu Arg Val Ser Thr Glu Leu Arg Tyr Arg Lys Gln Pro Trp Gly Leu  
 165 170 175  
 Val Lys Thr Phe Ile Glu Lys Asn Phe Trp Ser Gly Leu Glu Asp Tyr  
 180 185 190  
 Phe Arg His Leu  
 195 196

<210> 3310  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(399)  
 <223> Xaa = any amino acid or nothing

<400> 3310  
 Ser Pro Leu Cys His Pro Gly Leu Ser Arg Glu Arg Ser Xaa Ser Glu  
 1 5 10 15  
 Ala Lys Leu Arg Ser Gly Arg Tyr Cys Xaa Lys Arg Gln Val Glu Ala  
 20 25 30  
 Pro Leu Xaa Arg Pro Gly Leu Xaa Thr Met Ala Ala Ser Asp Thr Glu  
 35 40 45  
 Arg Asp Gly Leu Ala Pro Glu Lys Thr Ser Pro Asp Arg Asp Lys Lys  
 50 55 60  
 Lys Glu Gln Ser Glu Val Ser Val Ser Pro Arg Ala Ser Lys His His  
 65 70 75 80  
 Tyr Ser Arg Ser Arg Ser Arg Ser Arg Glu Arg Lys Arg Lys Ser Asp  
 85 90 95  
 Asn Glu Gly Arg Lys His Arg Ser Arg Ser Arg Ser Lys Glu Gly Arg  
 100 105 110  
 Arg His Glu Ser Lys Asp Lys Ser Ser Lys Lys His Lys Ser Glu Glu  
 115 120 125  
 His Asn Asp Lys Glu His Ser Ser Asp Lys Gly Arg Glu Arg Leu Asn

|   |     |     |
|---|-----|-----|
| 130   | 135 | 140 |
| Ser Ser Glu Asn Gly Glu Asp Arg His Lys Arg Lys Glu Arg Lys Ser |     |     |
| 145   | 150 | 155 |
| Ser Arg Gly Arg Ser His Ser Arg Ser Arg Ser Arg Glu Arg Arg His |     | 160 |
|   | 165 | 170 |
| Arg Ser Arg Ser Arg Glu Arg Lys Lys Ser Arg Ser Arg Ser Arg Glu |     | 175 |
|   | 180 | 185 |
| Arg Lys Lys Ser Arg Ser Arg Ser Arg Glu Arg Lys Lys Ser Arg Ser |     | 190 |
|   | 195 | 200 |
| Arg Ser Arg Glu Arg Lys Arg Arg Ile Arg Ser Arg Ser Arg Ser Arg |     | 205 |
|   | 210 | 215 |
| Ser Arg His Arg His Arg Thr Arg Ser Arg Ser Arg Thr Arg Ser Arg |     | 220 |
| 225   | 230 | 235 |
| Ser Arg Asp Arg Lys Lys Arg Ile Glu Lys Pro Arg Arg Phe Ser Arg |     | 240 |
|   | 245 | 250 |
| Ser Leu Ser Arg Thr Pro Ser Pro Pro Pro Phe Arg Gly Arg Asn Thr |     | 255 |
|   | 260 | 265 |
| Ala Met Asp Ala Gln Glu Ala Leu Ala Arg Arg Leu Glu Arg Ala Lys |     | 270 |
|   | 275 | 280 |
| Lys Leu Gln Glu Gln Arg Glu Lys Glu Met Val Glu Lys Gln Lys Gln |     | 285 |
|   | 290 | 295 |
| Gln Glu Ile Ala Ala Ala Ala Ala Thr Gly Gly Ser Val Leu Asn     |     | 300 |
| 305   | 310 | 315 |
| Val Ala Ala Leu Leu Ala Ser Gly Thr Gln Val Thr Pro Gln Ile Ala |     | 320 |
|   | 325 | 330 |
| Met Ala Ala Gln Met Ala Ala Leu Gln Ala Lys Ala Leu Ala Glu Thr |     | 335 |
|   | 340 | 345 |
| Gly Ile Ala Val Pro Ser Tyr Tyr Asn Pro Ala Ala Val Asn Pro Met |     | 350 |
|   | 355 | 360 |
| Lys Phe Ala Glu Gln Glu Lys Lys Arg Lys Met Leu Trp Gln Gly Lys |     | 365 |
| 370   | 375 | 380 |
| Lys Glu Gly Asp Lys Ser Gln Ser Ala Gly Asn Met Gly Lys Asn     |     | 385 |
| 385   | 390 | 395 |
|   |     | 399 |

<210> 3311  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 3311  
 Pro Ile Gln Ile Pro Pro Arg Ile Thr Pro Pro Arg Pro Ser Pro His  
 1 5 10 15  
 Leu Leu Thr Pro Arg Thr Gly Ser Ser Pro Pro Pro Pro Arg Ala Pro  
 20 25 30  
 Ser Pro Pro His Pro Thr Pro Gly Pro Ala His Asp Phe Pro Pro Leu  
 35 40 45  
 Ser Ala Val Leu Ser Gly His Thr Lys Thr  
 50 55 58

<210> 3312  
 <211> 144  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(141)  
 <223> Xaa = any amino acid or nothing

&lt;400&gt; 3312

```

Leu Glu Ser Pro Arg His Xaa Pro Pro Cys Trp Gly Pro Leu Ile Trp
 1          5          10          15
Ala Leu Thr Val Ser Ser Val Pro Ser Pro Thr Pro Glu Leu Ser Cys
          20          25          30
Ile Leu Lys Ser Pro Arg Pro Ala Cys Pro Val Pro Gly Leu Trp Pro
          35          40          45
Ser Leu Leu Ser Pro Ala Pro Pro Gln Ser Ser Gly Pro Leu Leu Gly
          50          55          60
Leu Ser Pro Cys Pro Gly Ala Gly Gln Trp Pro Ser Pro Leu Ser Pro
          65          70          75          80
Ala Pro Pro Pro Ser Ser Asp Pro Leu Ser Gly Leu Ser Pro Cys Pro
          85          90          95
Gly Ala Gly Pro Arg Ser Ser Pro Ser Ala Ser Ala Pro Cys Arg Ala
          100          105          110
Val Pro Leu Ser Pro Arg Arg Leu Thr Trp Pro Pro His Leu Gln Val
          115          120          125
Gly Ile Leu Ile Pro Thr Gly Arg Pro Trp Lys Asn Leu
          130          135          140 141

```

&lt;210&gt; 3313

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(53)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3313

```

Gln Leu Gln Asn Leu Ala Ser Arg Gly Cys Leu Xaa Ser Gln Leu Leu
 1          5          10          15
Arg Arg Leu Arg Arg Glu Asn Arg Leu Asn Pro Gly Gly Gly Gly Cys
          20          25          30
Ser Glu Ile Ala Pro Cys Thr Pro Ala Trp Val Thr Gln Arg Asp Phe
          35          40          45
Phe Arg Lys Lys Lys
          50          53

```

&lt;210&gt; 3314

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(53)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3314

```

Gln Leu Gln Asn Leu Ala Ser Arg Gly Cys Leu Xaa Ser Gln Leu Leu
 1          5          10          15
Arg Arg Leu Arg Arg Glu Asn Arg Leu Asn Pro Gly Gly Gly Gly Cys
          20          25          30
Ser Glu Ile Ala Pro Cys Thr Pro Ala Trp Val Thr Gln Arg Asp Phe
          35          40          45
Phe Arg Lys Lys Lys
          50          53

```

<210> 3315  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(155)  
 <223> Xaa = any amino acid or nothing

<400> 3315  
 Pro Arg Lys Arg Glu Ser Trp Trp Gly Glu Arg Leu Pro Pro Arg Gly  
 1 5 10 15  
 Phe Pro Pro Ala Ala Glu Asp Ala Pro Ala Pro Gly Trp Lys Gly Arg  
 20 25 30  
 Lys His Ala Ser Arg Thr Ala Arg Ala His Val Phe His Pro Ile Arg  
 35 40 45  
 Gln Ser Ile Arg Ser Pro Val Arg Gly Arg Pro Gly Asp Pro Arg Ala  
 50 55 60  
 Ala His Thr Arg Ser Ala Gly Thr Arg Leu Gln Cys Lys Ala Ser Arg  
 65 70 75 80  
 Gly Gly Xaa Gly Lys Gly Pro Ala Pro Thr Arg Xaa Glu Gly Gly Pro  
 85 90 95  
 Gly Ser Ala Pro Ala Pro Leu Pro Ala Ser Ser Gly Cys Ser Leu Phe  
 100 105 110  
 Pro Asp Ser Ser Pro Trp Thr Pro Pro Pro Pro Ala Pro Gly Ala Ala  
 115 120 125  
 Ala Ala Gln Pro Xaa Xaa Thr Pro Arg Cys Pro Ala Ala Leu Arg Ala  
 130 135 140  
 Gly Ala His Ile Gly Arg Val Gly Arg Pro Tyr  
 145 150 155

<210> 3316  
 <211> 769  
 <212> PRT  
 <213> Homo sapiens

<400> 3316  
 Asn His Leu Gly Thr Leu Met Gln Asn Trp Asp Ser Ser Ser Arg Val  
 1 5 10 15  
 Pro Phe Ser Ser Gly Gln His Ser Thr Gln Ser Phe Pro Pro Ser Leu  
 20 25 30  
 Met Ser Lys Ser Asn Ser Met Leu Gln Lys Pro Thr Ala Tyr Val Arg  
 35 40 45  
 Pro Met Asp Gly Gln Glu Ser Met Glu Pro Lys Leu Ser Ser Glu His  
 50 55 60  
 Tyr Ser Ser Gln Ser His Gly Asn Ser Met Thr Glu Leu Lys Pro Ser  
 65 70 75 80  
 Ser Lys Ala His Leu Thr Lys Leu Lys Ile Pro Ser Gln Pro Leu Asp  
 85 90 95  
 Ala Ser Ala Ser Gly Asp Val Ser Cys Val Asp Glu Ile Leu Lys Glu  
 100 105 110  
 Met Thr His Ser Trp Pro Pro Pro Leu Thr Ala Ile His Thr Pro Cys  
 115 120 125  
 Lys Thr Glu Pro Ser Lys Phe Pro Phe Pro Thr Lys Glu Ser Gln Gln  
 130 135 140  
 Ser Asn Phe Gly Thr Gly Glu Gln Lys Arg Tyr Asn Pro Ser Lys Thr  
 145 150 155 160  
 Ser Asn Gly His Gln Ser Lys Ser Met Leu Lys Asp Asp Leu Lys Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |     |     |
| Ser | Ser | Ser | Glu | Asp | Ser | Asp | Gly | Glu | Gln | Asp | Cys | Asp | Lys | Thr | Met |     |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Pro | Arg | Ser | Thr | Pro | Gly | Ser | Asn | Ser | Glu | Pro | Ser | His | His | Asn | Ser |     |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Glu | Gly | Ala | Asp | Asn | Ser | Arg | Asp | Asp | Ser | Ser | Ser | His | Ser | Gly | Ser |     |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Glu | Ser | Ser | Ser | Gly | Ser | Asp | Ser | Glu | Ser | Glu | Ser | Ser | Ser | Ser | Ser | Asp |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     |     | 240 |
| Ser | Glu | Ala | Asn | Glu | Pro | Ser | Gln | Ser | Ala | Ser | Pro | Glu | Pro | Glu | Pro |     |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     |     |     | 255 |
| Pro | Pro | Thr | Asn | Lys | Trp | Gln | Leu | Asp | Asn | Trp | Leu | Asn | Lys | Val | Asn |     |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Pro | His | Lys | Val | Ser | Pro | Ala | Ser | Ser | Val | Asp | Ser | Asn | Ile | Pro | Ser |     |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Ser | Gln | Gly | Tyr | Lys | Lys | Glu | Gly | Arg | Glu | Gln | Gly | Thr | Gly | Asn | Ser |     |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Tyr | Thr | Asp | Thr | Ser | Gly | Pro | Lys | Glu | Thr | Ser | Ser | Ala | Thr | Pro | Gly |     |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |
| Arg | Ala | Pro | Lys | Pro | Ile | Gln | Lys | Gly | Ser | Glu | Ser | Gly | Arg | Gly | Arg |     |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     |     |     | 335 |
| Gln | Lys | Ser | Pro | Ala | Gln | Ser | Asp | Ser | Thr | Thr | Gln | Arg | Arg | Thr | Val |     |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Gly | Lys | Lys | Gln | Pro | Lys | Lys | Ala | Glu | Lys | Ala | Ala | Ala | Glu | Glu | Pro |     |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Arg | Gly | Gly | Leu | Lys | Ile | Glu | Ser | Glu | Thr | Pro | Val | Asp | Leu | Ala | Ser |     |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |
| Ser | Met | Pro | Ser | Ser | Arg | His | Lys | Ala | Ala | Thr | Lys | Gly | Ser | Arg | Lys |     |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     | 400 |
| Pro | Asn | Ile | Lys | Lys | Glu | Ser | Lys | Ser | Ser | Pro | Arg | Pro | Thr | Ala | Glu |     |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     |     |     | 415 |
| Lys | Lys | Lys | Tyr | Lys | Ser | Thr | Ser | Lys | Ser | Ser | Gln | Lys | Ser | Arg | Glu |     |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |
| Ile | Ile | Glu | Thr | Asp | Thr | Ser | Ser | Ser | Asp | Ser | Asp | Glu | Ser | Glu | Ser |     |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |     |
| Leu | Pro | Pro | Ser | Ser | Gln | Thr | Pro | Lys | Tyr | Pro | Glu | Ser | Asn | Arg | Thr |     |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |     |
| Pro | Val | Lys | Pro | Ser | Ser | Val | Glu | Glu | Glu | Asp | Ser | Phe | Phe | Arg | Gln |     |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     |     | 480 |
| Arg | Met | Phe | Ser | Pro | Met | Glu | Glu | Lys | Glu | Leu | Leu | Ser | Pro | Leu | Ser |     |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     |     |     | 495 |
| Glu | Pro | Asp | Asp | Arg | Tyr | Pro | Leu | Ile | Val | Lys | Ile | Asp | Leu | Asn | Leu |     |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |
| Leu | Thr | Arg | Ile | Pro | Gly | Lys | Pro | Tyr | Lys | Glu | Thr | Glu | Pro | Pro | Lys |     |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |     |
| Gly | Glu | Lys | Lys | Asn | Val | Pro | Glu | Lys | His | Thr | Arg | Glu | Ala | Gln | Lys |     |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |     |
| Gln | Ala | Ser | Glu | Lys | Val | Ser | Asn | Lys | Gly | Lys | Arg | Lys | His | Lys | Asn |     |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     |     | 560 |
| Glu | Asp | Asp | Asn | Arg | Ala | Ser | Glu | Ser | Lys | Lys | Pro | Lys | Thr | Glu | Asp |     |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     |     |     | 575 |
| Lys | Asn | Ser | Ala | Gly | His | Lys | Pro | Ser | Ser | Asn | Arg | Glu | Ser | Ser | Lys |     |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |
| Gln | Ser | Ala | Ala | Lys | Glu | Lys | Asp | Leu | Leu | Pro | Ser | Pro | Ala | Gly | Pro |     |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |     |
| Val | Pro | Ser | Lys | Asp | Pro | Lys | Thr | Glu | His | Gly | Ser | Arg | Lys | Arg | Thr |     |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |     |
| Ile | Ser | Gln | Ser | Ser | Ser | Leu | Lys | Ser | Ser | Ser | Asn | Ser | Asn | Lys | Glu |     |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     |     | 640 |
| Thr | Ser | Gly | Ser | Ser | Lys | Asn | Ser | Ser | Ser | Thr | Ser | Lys | Gln | Lys | Lys |     |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     |     |     | 655 |
| Thr | Glu | Gly | Lys | Thr | Ser | Ser | Ser | Ser | Lys | Glu | Val | Lys | Val | Lys | Ala |     |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |     |
| Pro | Ser | Ser | Ser | Ser | Asn | Cys | Pro | Pro | Ser | Ala | Pro | Thr | Leu | Asp | Ser |     |

|   |     |     |
|---|-----|-----|
| 675   | 680 | 685 |
| Ser Lys Pro Arg Arg Thr Lys Leu Val Phe Asp Asp Arg Asn Tyr Ser |     |     |
| 690   | 695 | 700 |
| Ala Asp His Tyr Leu Gln Glu Ala Lys Lys Leu Lys His Asn Ala Asp |     |     |
| 705   | 710 | 715 |
| Ala Leu Ser Asp Arg Phe Glu Lys Ala Val Tyr Tyr Leu Asp Ala Val |     |     |
|   | 725 | 730 |
| Val Ser Phe Ile Glu Cys Gly Asn Ala Leu Glu Lys Asn Ala Gln Glu |     |     |
|   | 740 | 745 |
| Ser Lys Ser Pro Phe Pro Met Tyr Ser Glu Thr Val Asp Leu Ile     |     |     |
| 755   | 760 | 765 |
|   |     | 767 |

<210> 3317  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<400> 3317

|   |     |
|---|-----|
| Asn Leu Leu Gln Asp Glu Lys Leu Val His Ser Tyr Pro Tyr Asp Trp |     |
| 1   | 5   |
| Arg Thr Gln Glu Thr Cys Gly Tyr Ile Val Pro Ala Arg Gln Trp Phe |     |
|   | 20  |
| Ile Asn Thr Arg Asp Ile Lys Thr Ala Ala Lys Glu Leu Leu Lys Lys |     |
|   | 35  |
| Val Lys Phe Ile Pro Gly Ser Ala Leu Asn Gly Met Val Glu Met Met |     |
|   | 50  |
| Asp Arg Arg Pro Tyr Trp Cys Ile Ser Arg Gln Arg Val Trp Gly Val |     |
| 65  | 70  |
| Pro Ile Pro Val Phe His His Lys Thr Lys Asp Glu Tyr Leu Ile Asn |     |
|   | 85  |
| Ser Gln Thr Thr Glu His Ile Val Lys Leu Val Glu Gln His Gly Ser |     |
|   | 100 |
| Asp Ile Trp Trp Thr Leu Pro Pro Glu Gln Leu Leu Pro Lys Glu Val |     |
|   | 115 |
| Leu Ser Glu Val Gly Gly Pro Asp Ala Leu Glu Tyr Val Pro Gly Gln |     |
|   | 130 |
| Asp Ile Leu Asp Ile Trp Phe Asp Ser Gly Thr Ser Trp Ser Tyr Val |     |
| 145   | 150 |
| Leu Pro Gly Pro Asp   |     |
|   | 165 |

<210> 3318  
 <211> 171  
 <212> PRT  
 <213> Homo sapiens

<400> 3318

|   |    |
|---|----|
| Ala Trp His Glu Gly Asp Ser Arg Ser Asp Gln Cys His His Pro Tyr |    |
| 1   | 5  |
| Asn Tyr Gly Phe Asp Tyr Tyr Tyr Gly Met Pro Phe Thr Leu Val Asp |    |
|   | 20 |
| Ser Cys Trp Pro Asp Pro Ser Arg Asn Thr Glu Leu Ala Phe Glu Ser |    |
|   | 35 |
| Gln Leu Trp Leu Cys Val Gln Leu Val Ala Ile Ala Ile Leu Thr Leu |    |
|   | 50 |
| Thr Phe Gly Lys Leu Ser Gly Trp Val Ser Val Pro Trp Leu Leu Ile |    |
| 65  | 70 |
| Phe Ser Met Ile Leu Phe Ile Phe Leu Leu Gly Tyr Ala Trp Phe Ser |    |
|   | 75 |
|   | 80 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | His | Thr | Ser | Pro | Leu | Tyr | Trp | Asp | Cys | Leu | Leu | Met | Arg | Gly | His |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Ile | Thr | Glu | Gln | Pro | Met | Lys | Ala | Glu | Arg | Ala | Gly | Ser | Ile | Met |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Lys | Glu | Ala | Ile | Phe | Leu | Phe | Arg | Lys | Gly | His | Ser | Lys | Gly | Lys |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | Phe | Leu | Leu | Phe | Phe | Leu | Pro | Phe | Leu | Gln | Val | His | Lys | Thr | Phe |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Pro | Thr | Thr | Asp | Gly | Phe | His | Trp | Ala | Pro |     |     |     |     |     |     |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     |     |  |  |

<210> 3319  
 <211> 137  
 <212> PRT  
 <213> Homo sapiens

<400> 3319

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ser | Ser | Leu | His | Arg | Ser | Pro | Arg | Pro | Ala | Ser | Pro | Leu | Pro | Val | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Glu | Ala | Pro | Ser | Phe | Leu | Pro | Val | Pro | Ala | Pro | Lys | Pro | Ser | Ala | Leu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Pro | Pro | Phe | Ser | Leu | Ser | Gly | Ala | Pro | Ser | Ser | Ala | Ser | Thr | Phe | Ser |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Pro | His | Ser | Ser | Pro | Ser | Pro | Ala | Ser | Pro | Thr | Pro | Ala | Pro | Ser | Pro |  |  |
|     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Gln | Ser | Pro | Phe | Pro | Ser | Arg | Pro | Thr | Ser | Pro | Pro | Ser | Leu | Thr | Pro |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Thr | Arg | Arg | Pro | Pro | Leu | Pro | Ala | Asp | Arg | Arg | Gly | Pro | His | Leu | Leu |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Tyr | Gln | Pro | Leu | His | Ala | Pro | Leu | Glu | Ala | Ala | Ala | Thr | Gly | Pro | Glu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Pro | Ser | Ala | Ala | Ala | Gly | Arg | Leu | Pro | Arg | Pro | Arg | Pro | Pro | Trp | Arg |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Ala | Tyr | Pro | Ala | Ser | Arg |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     |     |     |     |     |  |  |

<210> 3320  
 <211> 202  
 <212> PRT  
 <213> Homo sapiens

<400> 3320

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Gln | Met | Ser | Glu | Ala | Val | Ala | Glu | Lys | Met | Leu | Gln | Tyr | Arg | Arg | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Thr | Ala | Gly | Trp | Lys | Ile | Cys | Arg | Glu | Gly | Asn | Gly | Val | Ser | Val | Ser |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Trp | Arg | Pro | Ser | Val | Glu | Phe | Pro | Gly | Asn | Leu | Tyr | Arg | Gly | Glu | Gly |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Ile | Val | Tyr | Gly | Thr | Leu | Glu | Val | Trp | Asp | Cys | Val | Lys | Pro | Ala |     |  |  |
|     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |  |  |
| Val | Gly | Gly | Leu | Arg | Val | Lys | Trp | Asp | Glu | Asn | Val | Thr | Gly | Phe | Glu |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Ile | Ile | Gln | Ser | Ile | Thr | Asp | Thr | Leu | Cys | Val | Ser | Arg | Thr | Ser | Thr |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Pro | Ser | Ala | Ala | Met | Lys | Leu | Ile | Ser | Pro | Arg | Asp | Phe | Val | Asp | Leu |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Val | Leu | Val | Lys | Arg | Tyr | Glu | Asp | Gly | Thr | Ile | Ser | Ser | Asn | Ala | Thr |  |  |

|   |                                     |     |
|---|-------------------------------------|-----|
| 115                                     | 120                                 | 125 |
| His Val Glu His Pro Leu Cys             | Pro Pro Lys Pro Gly Phe Val Arg Gly |     |
| 130                                     | 135                                 | 140 |
| Phe Asn His Pro Cys Gly Cys Phe Cys Glu | Pro Leu Pro Gly Glu Pro             |     |
| 145                                     | 150                                 | 155 |
| Thr Lys Thr Asn Leu Val Thr Phe Phe His | Thr Asp Leu Ser Gly Tyr             | 160 |
|   | 165                                 | 170 |
| Leu Pro Gln Asn Val Val Asp Ser Phe Phe | Pro Arg Ser Met Thr Arg             | 175 |
|   | 180                                 | 185 |
| Phe Tyr Ala Asn Leu Gln Lys Ala Val Lys |                                     | 190 |
| 195                                     | 200                                 | 202 |

<210> 3321  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3321  |
| Ser His Ser Ala Ser Gly Ala Gly Arg Pro Ala Ala Pro Ala Ala Asp |
| 1 5 10 15   |
| Leu Arg Pro Ala Pro Asn Gly Gln Arg Pro Gly Pro Arg Leu Gly Ala |
| 20 25 30  |
| Arg Ala Leu Trp Leu Pro Pro Arg Gly Arg Pro Asp Glu Ala Gly Arg |
| 35 40 45  |
| Leu Pro Gly Glu His Leu Pro Gln Val Pro Trp Asp Pro Gly Leu Thr |
| 50 55 60  |
| Arg Ser Pro Ser Pro Arg Gly Pro Cys Arg Gly Ala Ala Arg Ala Gly |
| 65 70 75 80   |
| His Val Gly Glu Thr Pro Ala Pro Trp Gly Cys Pro Pro Pro Cys Ala |
| 85 90 95  |
| Trp Glu His Lys Gly Pro Gly Ser Glu Gly Thr Pro                 |
| 100 105 108   |

<210> 3322  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(140)  
 <223> Xaa = any amino acid or nothing

|   |
|---|
| <400> 3322  |
| Ala Ile Val Glu Asp Lys His Ser Gly Arg Ser Tyr Asp Ile Thr Ser |
| 1 5 10 15   |
| Asp Leu Gly Asn Val Leu Thr Ser Thr Ser Ile Ala Lys Thr Val Asn |
| 20 25 30  |
| Gly Xaa Ala Glu Ser Ser Asp Ser Gly Ala Glu Ser Asp Glu Glu Asp |
| 35 40 45  |
| Ala Gln Glu Asp Leu Met Gly Ala Tyr His Ser Asp Ile Asp Lys Lys |
| 50 55 60  |
| Met Met Lys Ile Val Ala Asp His Lys Asn Leu Glu Val Ile Val Thr |
| 65 70 75 80   |
| Asn Gly Tyr Asp Lys Asp Gly Phe Val His Asp Ile Gln Asn Asp Ile |
| 85 90 95  |
| His Ala Ser Ser Ser Leu Asn Gly Arg Ser Thr Val His Val Lys Pro |
| 100 105 110   |
| Ile Asp Glu Asn Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His |

115 120 125  
 Gln Asp Ile Asn Asp Asp His Val Glu Asp Val Thr  
 130 135 140

<210> 3323  
 <211> 150  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(150)  
 <223> Xaa = any amino acid or nothing

<400> 3323  
 Asp Thr Leu Ser Leu Asn Cys Thr Leu Pro Glu Thr Leu Pro Met Thr  
 1 5 10 15  
 Pro Ser Phe Xaa Leu Ser Phe Leu Xaa Phe Pro Gly Leu Ala Arg Ala  
 20 25 30  
 Lys Ser Ile Pro Thr Lys Thr Tyr Ser Asn Glu Val Val Thr Leu Trp  
 35 40 45  
 Tyr Arg Pro Pro Asp Ile Leu Leu Gly Ser Thr Asp Tyr Ser Thr Gln  
 50 55 60  
 Ile Asp Met Trp Xaa Gly Gln Val Glu Val Trp Gln Gly Pro Cys Gly  
 65 70 75 80  
 Lys Gly Gly Gly Leu Val Thr Thr Ala Thr Gln Pro Ala Ala Phe Leu  
 85 90 95  
 Phe Thr Val Pro Ser Leu Pro Arg Gly Val Gly Cys Ile Phe Tyr Glu  
 100 105 110  
 Met Ala Thr Gly Arg Pro Leu Phe Pro Gly Ser Thr Val Glu Glu Gln  
 115 120 125  
 Leu His Phe Ile Phe Arg Ile Leu Ser Glu Glu Ala Trp Ala Leu Cys  
 130 135 140  
 Ala Val Glu Thr His Arg  
 145 150

<210> 3324  
 <211> 270  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(270)  
 <223> Xaa = any amino acid or nothing

<400> 3324  
 Pro Gly Ser Thr His Ala Ser Ala Arg Ile Thr Ile Tyr Xaa Leu Xaa  
 1 5 10 15  
 Ile Ile Leu Ser Asn Ala Thr Glu Val Asp Asn Asn Phe Ser Lys Pro  
 20 25 30  
 Pro Pro Phe Phe Pro Ala Gly Ala Pro Pro Ala Ser Ser Ser Ser  
 35 40 45  
 Ser Ser Ser Ser Ser Pro Pro Thr Val Ser Thr Ala Pro Pro Leu Ile  
 50 55 60  
 Pro Pro Pro Gly Phe Pro Pro Pro Pro Gly Ala Pro Pro Pro Ser Leu  
 65 70 75 80  
 Ile Pro Thr Ile Glu Ser Gly His Ser Ser Gly Tyr Asp Ser Arg Ser  
 85 90 95  
 Ala Arg Ala Phe Pro Tyr Gly Asn Val Ala Phe Pro His Leu Pro Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Ser | Ala | Pro | Ser | Trp | Pro | Ser | Leu | Val | Asp | Thr | Ser | Lys | Gln | Trp | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Tyr | Ala | Arg | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Ser | Ser | Pro | Arg | Asp | Arg | Asp | Arg | Glu | Arg | Xaa | Arg | Thr | Arg | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Glu | Arg | Glu | Arg | Asp | His | Ser | Pro | Thr | Pro | Ser | Val | Phe | Asn | Ser |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Asp | Glu | Glu | Arg | Tyr | Arg | Tyr | Arg | Glu | Tyr | Ala | Glu | Arg | Gly | Tyr | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | His | Arg | Ala | Ser | Arg | Glu | Lys | Glu | Glu | Arg | His | Arg | Glu | Arg | Arg |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| His | Arg | Glu | Lys | Glu | Glu | Thr | Arg | His | Lys | Ser | Ser | Arg | Ser | Asn | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Arg | Arg | His | Glu | Ser | Glu | Glu | Gly | Asp | Ser | His | Arg | Arg | His | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Lys | Lys | Ser | Lys | Arg | Ser | Lys | Glu | Gly | Lys | Glu | Ala | Gly | Ser | Glu |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Pro | Ala | Pro | Glu | Gln | Glu | Ser | Thr | Glu | Ala | Thr | Pro | Ala | Glu |     |     |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |

&lt;210&gt; 3325

&lt;211&gt; 1015

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1015)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3325

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Cys | Leu | Phe | Ser | Ala | Ser | Cys | Ser | Ser | Leu | Pro | Ser | Pro | Ser | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Phe | Ala | Leu | Leu | Ser | Thr | Glu | Asn | Thr | Gln | Arg | Thr | Tyr | Arg | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Pro | Asp | Gly | Ser | Leu | Arg | Val | Thr | Phe | Ala | Ser | Gly | Met | Glu | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gly | Leu | Ser | Ser | Glu | Pro | His | Ile | Leu | Ala | Gly | Ala | Val | Asn | Pro | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gly | Lys | Cys | Asn | Ile | Ser | Leu | Pro | Gly | Glu | His | Asn | Ala | Asn | Leu |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Ser | Val | Leu | Xaa | Xaa | Gly | Glu | Gln | Gly | Cys | Ala | Xaa | Asn | Val | Phe |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| His | Ile | Ser | Phe | Ser | Xaa | Ala | His | Asn | Arg | Asn | Leu | Leu | Ser | Ile | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Asp | His | Ile | Thr | Arg | Thr | Gly | Lys | Ile | Tyr | Asp | Asp | His | Arg | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Thr | Leu | Arg | Ile | Leu | Tyr | Asp | Gln | Thr | Gly | Arg | Pro | Ile | Leu | Trp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Pro | Val | Ser | Arg | Tyr | Asn | Glu | Val | Asn | Ile | Thr | Tyr | Ser | Pro | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Leu | Val | Thr | Phe | Ile | Gln | Arg | Gly | Thr | Trp | Asn | Glu | Lys | Met | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Asp | Gln | Ser | Phe | Leu | Xaa | Ser | Pro | Gln | Leu | Xaa | Leu | Ser | Ile | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Cys | Tyr | Ser | Ala | Phe | Val | Ser | Phe | Gln | Ser | Val | Met | Leu | Leu | Leu | His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Gln | Arg | Arg | Tyr | Ile | Phe | Glu | Tyr | Asp | Gln | Pro | Asp | Cys | Leu | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Val | Thr | Met | Pro | Ser | Met | Val | Arg | His | Ser | Leu | Gln | Thr | Met | Leu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Val | Gly | Tyr | Tyr | Arg | Asn | Ile | Tyr | Thr | Pro | Pro | Asp | Ser | Ser | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Phe | Ile | Gln | Asp | Tyr | Ser | Arg | Asp | Gly | Arg | Leu | Leu | Gln | Thr | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| His | Leu | Gly | Thr | Gly | Arg | Arg | Val | Leu | Tyr | Lys | Tyr | Thr | Lys | Gln | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Leu | Ser | Glu | Val | Leu | Tyr | Asp | Thr | Thr | Gln | Val | Thr | Leu | Thr | Tyr |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Glu | Glu | Ser | Ser | Gly | Asp | Leu | Ser | Asp | Ser | Ser | Thr | Leu | Ile | Ala | Xaa |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Leu | Thr | Val | Phe | Val | Leu | Val | Pro | Ala | Gly | Pro | Leu | Ile | Gly | Arg |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Gln | Ile | Phe | Arg | Phe | Ser | Glu | Glu | Gly | Leu | Val | Asn | Ala | Arg | Phe | Asp |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |     |     |     |
| Tyr | Ser | Tyr | Asn | Asn | Phe | Arg | Val | Thr | Ser | Met | Gln | Ala | Val | Ile | Asn |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Glu | Thr | Pro | Leu | Pro | Ile | Asp | Leu | Tyr | Arg | Tyr | Val | Asp | Val | Ser | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Arg | Thr | Glu | Gln | Phe | Gly | Lys | Phe | Ser | Val | Ile | Asn | Tyr | Asp | Leu | Asn |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Gln | Val | Ile | Thr | Thr | Thr | Val | Met | Lys | His | Thr | Lys | Ile | Phe | Ser | Ala |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Asn | Gly | Gln | Val | Ile | Glu | Val | Gln | Tyr | Glu | Ile | Leu | Lys | Ala | Ile | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Tyr | Trp | Met | Thr | Ile | Gln | Tyr | Asp | Asn | Val | Gly | Arg | Met | Val | Ile | Cys |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Asp | Ile | Arg | Val | Gly | Val | Asp | Ala | Asn | Ile | Thr | Arg | Tyr | Phe | Tyr | Glu |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Tyr | Asp | Ala | Asp | Gly | Gln | Leu | Gln | Thr | Val | Ser | Val | Asn | Asp | Lys | Thr |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Gln | Trp | Arg | Tyr | Ser | Tyr | Asp | Leu | Asn | Gly | Asn | Ile | Asn | Leu | Leu | Ser |
|     |     |     |     | 485 |     |     |     | 490 |     |     |     |     |     | 495 |     |
| His | Gly | Lys | Ser | Ala | Arg | Leu | Thr | Pro | Leu | Arg | Tyr | Asp | Leu | Arg | Asp |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Arg | Ile | Thr | Arg | Leu | Gly | Glu | Ile | Gln | Tyr | Lys | Met | Asp | Glu | Asp | Gly |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Phe | Leu | Arg | Gln | Arg | Gly | Asn | Asp | Ile | Phe | Glu | Tyr | Asn | Ser | Asn | Gly |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |
| Leu | Leu | Gln | Lys | Ala | Tyr | Asn | Lys | Ala | Ser | Gly | Trp | Thr | Val | Gln | Tyr |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Tyr | Tyr | Asp | Gly | Leu | Gly | Arg | Arg | Val | Ala | Ser | Lys | Ser | Ser | Leu | Gly |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     |     | 575 |     |
| Gln | His | Leu | Gln | Phe | Phe | Tyr | Ala | Asp | Leu | Thr | Asn | Pro | Ile | Arg | Val |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     |     | 590 |     |     |
| Thr | His | Leu | Tyr | Asn | His | Thr | Ser | Ser | Glu | Ile | Thr | Ser | Leu | Tyr | Tyr |
|     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |
| Asp | Leu | Gln | Gly | His | Leu | Ile | Ala | Met | Glu | Leu | Ser | Ser | Gly | Glu | Glu |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |
| Tyr | Tyr | Val | Ala | Cys | Asp | Asn | Thr | Gly | Thr | Pro | Leu | Ala | Val | Phe | Ser |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Ser | Arg | Gly | Gln | Val | Ile | Lys | Glu | Ile | Leu | Tyr | Thr | Pro | Tyr | Gly | Asp |
|     |     |     |     | 645 |     |     |     | 650 |     |     |     |     |     | 655 |     |
| Ile | Tyr | His | Asp | Thr | Tyr | Pro | Asp | Phe | Gln | Val | Ile | Ile | Gly | Phe | His |
|     |     | 660 |     |     |     |     | 665 |     |     |     |     |     | 670 |     |     |
| Gly | Gly | Leu | Tyr | Asp | Phe | Leu | Thr | Lys | Leu | Val | His | Leu | Gly | Gln | Arg |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| Asp | Tyr | Asp | Val | Val | Ala | Gly | Arg | Trp | Thr | Thr | Pro | Asn | His | His | Ile |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Trp | Lys | Gln | Leu | Asn | Leu | Leu | Pro | Lys | Pro | Phe | Asn | Leu | Ser | Thr | Lys |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Leu | Ile | Lys | Tyr | Gly | Ile | Phe | His | Phe | Leu | Phe | Leu | Ile | Leu | Cys | Leu |
|     |     |     |     | 725 |     |     |     | 730 |     |     |     |     |     | 735 |     |
| Thr | Asp | Ile | Arg | Ser | Trp | Leu | Glu | Leu | Phe | Gly | Phe | Gln | Leu | His | Asn |

|     |     |     |      |     |     |     |      |     |     |     |     |      |     |     |     |     |  |
|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|--|
|     |     |     | 740  |     |     |     |      | 745 |     |     |     |      | 750 |     |     |     |  |
| Val | Leu | Pro | Gly  | Phe | Pro | Lys | Pro  | Glu | Leu | Glu | Asn | Ser  | Pro | Ser | Ile |     |  |
|     |     |     | 755  |     |     |     |      | 760 |     |     |     |      | 765 |     |     |     |  |
| Xaa | Gln | Met | Ser  | Asn | Ser | Met | Leu  | His | Leu | Leu | Cys | Ala  | Ser | Leu | Ser |     |  |
|     |     |     | 770  |     |     |     |      | 775 |     |     |     |      | 780 |     |     |     |  |
| Xaa | Thr | Ile | Leu  | Gly | Ile | Gln | Cys  | Glu | Leu | Gln | Lys | Gln  | Leu | Arg | Asn |     |  |
|     |     |     | 785  |     |     |     | 790  |     |     |     |     |      | 795 |     |     | 800 |  |
| Phe | Ile | Ser | Leu  | Asp | Gln | Leu | Pro  | Met | Thr | Pro | Arg | Tyr  | Asn | Asp | Gly |     |  |
|     |     |     |      | 805 |     |     |      |     |     | 810 |     |      |     |     | 815 |     |  |
| Arg | Cys | Leu | Glu  | Gly | Gly | Lys | Gln  | Pro | Arg | Phe | Ala | Ala  | Val | Pro | Ser |     |  |
|     |     |     | 820  |     |     |     |      | 825 |     |     |     |      | 830 |     |     |     |  |
| Val | Phe | Gly | Lys  | Gly | Ile | Lys | Phe  | Ala | Ile | Lys | Asp | Gly  | Ile | Val | Thr |     |  |
|     |     |     | 835  |     |     |     |      | 840 |     |     |     |      | 845 |     |     |     |  |
| Ala | Asp | Ile | Ile  | Gly | Val | Ala | Asn  | Glu | Asp | Ser | Arg | Arg  | Leu | Ala | Ala |     |  |
|     |     |     | 850  |     |     |     | 855  |     |     |     |     | 860  |     |     |     |     |  |
| Ile | Leu | Asn | Asn  | Ala | His | Tyr | Leu  | Glu | Asn | Leu | His | Phe  | Thr | Ile | Glu |     |  |
|     |     |     | 865  |     |     |     | 870  |     |     |     |     | 875  |     |     | 880 |     |  |
| Gly | Arg | Asp | Thr  | His | Tyr | Phe | Ile  | Lys | Leu | Gly | Ser | Leu  | Glu | Glu | Asp |     |  |
|     |     |     |      | 885 |     |     |      |     |     | 890 |     |      |     |     | 895 |     |  |
| Leu | Val | Leu | Ile  | Gly | Asn | Thr | Gly  | Gly | Arg | Arg | Ile | Leu  | Glu | Asn | Gly |     |  |
|     |     |     | 900  |     |     |     |      | 905 |     |     |     |      | 910 |     |     |     |  |
| Val | Asn | Val | Thr  | Val | Ser | Gln | Met  | Thr | Ser | Val | Leu | Asn  | Gly | Arg | Thr |     |  |
|     |     |     | 915  |     |     |     |      | 920 |     |     |     |      | 925 |     |     |     |  |
| Arg | Arg | Phe | Ala  | Asp | Ile | Gln | Leu  | Gln | His | Gly | Ala | Leu  | Cys | Phe | Asn |     |  |
|     |     |     | 930  |     |     |     | 935  |     |     |     |     | 940  |     |     |     |     |  |
| Ile | Arg | Tyr | Gly  | Thr | Thr | Val | Glu  | Glu | Glu | Lys | Asn | His  | Val | Leu | Glu |     |  |
|     |     |     | 945  |     |     |     | 950  |     |     |     |     | 955  |     |     | 960 |     |  |
| Ile | Ala | Arg | Gln  | Arg | Ala | Val | Ala  | Gln | Ala | Trp | Thr | Lys  | Glu | Gln | Arg |     |  |
|     |     |     | 965  |     |     |     |      |     |     | 970 |     |      |     |     | 975 |     |  |
| Arg | Leu | Gln | Glu  | Gly | Glu | Glu | Gly  | Ile | Arg | Ala | Trp | Thr  | Glu | Gly | Glu |     |  |
|     |     |     | 980  |     |     |     |      | 985 |     |     |     |      | 990 |     |     |     |  |
| Lys | Gln | Gln | Leu  | Leu | Ser | Thr | Gly  | Arg | Val | Gln | Gly | Tyr  | Asp | Gly | Tyr |     |  |
|     |     |     | 995  |     |     |     | 1000 |     |     |     |     | 1005 |     |     |     |     |  |
| Phe | Val | Leu | Ser  | Val | Glu | Gln |      |     |     |     |     |      |     |     |     |     |  |
|     |     |     | 1010 |     |     |     | 1015 |     |     |     |     |      |     |     |     |     |  |

&lt;210&gt; 3326

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(250)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3326

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Lys | Ala | Cys | Leu | His | Leu | Leu | Ser | Ser | Phe | Leu | Thr | Ser | Asn | Phe | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Phe | Asn | Pro | Leu | Leu | Pro | Asp | Ser | Leu | Tyr | Ser | Val | Glu | Ala | Arg | Ser |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gln | Arg | Ala | Asn | Leu | Gly | Pro | Cys | Arg | Arg | Lys | Arg | Leu | Gln | Thr | Leu |  |  |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Met | Arg | Leu | Ala | Ala | Gly | Phe | Gln | Tyr | Ser | Ser | His | Lys | Asp | Pro | Ser |  |  |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Leu | Ser | Ala | Lys | Glu | Lys | His | Thr | Asp | Tyr | His | Asn | Glu | Ala | Arg | Gly |  |  |
|     |     |     | 65  |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Pro | Trp | Pro | Gly | Trp | Val | Gly | Xaa | Arg | Thr | Ala | Asp | Gly | Ser | Cys | Gly |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Arg | Gly | Pro | Asp | Gly | Ala | His | His | Pro | Gly | Pro | Lys | Ser | Ser | Ser | Trp |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Arg | Ala | Ser | Arg | Leu | Leu | Pro | Gly | Leu | Gly | Gly | Ser | His | His | Leu | Asp |  |  |



|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Ala Tyr Val Gly Arg Asp Leu Glu Cys Gly Thr Pro Ala Pro Leu Gln |     |     |
| 130   | 135 | 140 |
| Leu Glu Ile Pro Pro Gln Pro Arg Gly His Pro Ala Pro Ile Pro Thr |     |     |
| 145   | 150 | 155 |
| Gly Gln Ala Gly Pro Arg Asp Ser Gly Pro Gly Ala Ser Pro Xaa Val |     | 160 |
| 165   | 170 | 175 |
| Glu Thr Arg Pro Leu Thr Asp Gly Arg Arg Xaa Pro Gly Val Arg Pro |     |     |
| 180   | 185 | 190 |
| Val Gly Trp Thr Pro Ala His Pro Ala Gly Thr Leu Arg Pro Arg Gly |     |     |
| 195   | 200 | 205 |
| Ala Val Glu Pro Ser Val Ser Ala Cys Gly Lys Trp Ala Pro Ser Pro |     |     |
| 210   | 215 | 220 |
| Thr Ser Gln Gly Cys Cys Glu Gly Arg Cys Asp Ala Val Pro Lys His |     |     |
| 225   | 230 | 235 |
| Arg Ala Trp Arg Thr Pro Leu Cys Ser Gln                         |     | 240 |
| 245   | 250 |     |

<210> 3327  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 3327

|   |  |
|---|--|
| Cys Ser Glu Cys Gly Lys Ser Phe Cys Lys Lys Ser Lys Phe Ile Ile |  |
| 1 5 10 15   |  |
| His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Gln Cys |  |
| 20 25 30  |  |
| Gly Lys Ser Phe Cys Gln Lys Gly Thr Leu Thr Val His Gln Arg Thr |  |
| 35 40 45  |  |
| His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly Lys Asn Phe |  |
| 50 55 60  |  |
| Tyr Gln Lys Leu His Leu Ile Gln His Gln Arg Thr His Ser Gly Glu |  |
| 65 70 75 80   |  |
| Lys Pro Tyr Glu Cys Ser Tyr Cys Gly Lys Ser Phe Cys Gln Lys Thr |  |
| 85 90 95  |  |
| His Leu Thr Gln His Gln Arg Thr His Ser Gly Glu Arg Pro Tyr Val |  |
| 100 105 110   |  |
| Cys His Asp Cys Gly Lys Thr Phe Ser Gln Lys Ser Ala Leu Asn Asp |  |
| 115 120 125   |  |
| His Gln Lys Ile His Thr Gly Val Lys Leu Tyr                     |  |
| 130 135 139   |  |

<210> 3328  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 3328

|   |  |
|---|--|
| Val Thr Arg Lys Leu Pro Ile Phe Ile Val Asp Ala Phe Thr Ala Arg |  |
| 1 5 10 15   |  |
| Ala Phe Arg Gly Ser Pro Ala Ala Asp Cys Leu Leu Glu Asn Glu Leu |  |
| 20 25 30  |  |
| Asp Glu Asp Met His Gln Lys Ile Ala Arg Glu Met Asn Leu Ser Glu |  |
| 35 40 45  |  |
| Thr Ala Phe Ile Arg Lys Leu His Pro Thr Asp Asn Phe Ala Gln Arg |  |
| 50 55 60  |  |
| Ser Cys Phe Gly Leu Ile Trp Phe Thr Pro Thr Thr Asp Leu Gln Ile |  |

```
<210> 3329
<211> 125
<212> PRT
<213> Homo sapiens
```

```
<210> 3330
<211> 122
<212> PRT
<213> Homo sapiens
```

```
<210> 3331
<211> 135
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 3331

```

Thr Phe Gly Cys Ser Cys Thr Asp Cys Phe Phe Gln Lys Cys Cys Pro
 1           5           10           15
Ala Glu Ala Gly Val Leu Leu Ala Tyr Asn Lys Asn Gln Gln Ile Lys
           20           25           30
Ile Pro Pro Gly Thr Pro Ile Tyr Glu Cys Asn Ser Arg Cys Gln Cys
           35           40           45
Gly Pro Asp Cys Pro Asn Arg Ile Val Gln Lys Gly Thr Gln Tyr Ser
           50           55           60
Leu Cys Ile Phe Arg Thr Ser Asn Gly Arg Gly Trp Gly Val Lys Thr
           65           70           75           80
Leu Val Lys Ile Lys Arg Met Ser Phe Val Met Glu Tyr Val Gly Glu
           85           90           95
Val Ile Thr Ser Glu Glu Ala Glu Arg Arg Gly Gln Phe Tyr Asp Asn
           100          105          110
Lys Gly Ile Thr Tyr Leu Phe Asp Leu Asp Tyr Glu Ser Asp Glu Phe
           115          120          125
Thr Val Asp Ala Ala Arg Tyr
           130          135

```

&lt;210&gt; 3332

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3332

```

Pro Ala Ala Asp Phe Val Leu Gln Ala Arg Pro Thr Arg Ala Asp Ile
 1           5           10           15
Leu Gly Ile His Ser Lys Tyr Asp Glu Val Arg Lys Ala Gly Ala Cys
           20           25           30
Phe Tyr Lys Met Thr Gly Leu Gly Pro Gly Pro Gln Ala Leu Tyr Asn
           35           40           45
Gly Glu Pro Phe Lys His Glu Glu Met Asn Ile Lys Glu Leu Lys Met
           50           55           60
Ala Val Leu Gln Arg Met Met Asp Ala Ser Val Tyr Leu Gln Arg Glu
           65           70           75           80
Val Phe Leu Gly Thr Leu Asn Asp Arg Thr Asn Ala Ile Asp Phe Leu
           85           90           95
Met Asp Arg Asn Asn Val Val Pro Arg Ile Asn Thr Leu Ile Leu Arg
           100          105          110
Thr Asn Gln Gln Tyr Leu Asn Leu Leu Ser Thr Ser Val Thr Ala Asp
           115          120          125
Ala Glu Asp Phe Ser Thr Phe Phe Phe Leu Asp Ser Gln Asp Lys Ser
           130          135          140
Ala
145

```

&lt;210&gt; 3333

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3333

```

Ala Trp Ile Ile Phe Leu Pro Pro Leu Thr Ser Cys Pro Leu Trp Ala
 1           5           10           15
Pro Gly Thr Lys His Lys Thr Ile Leu Glu Ala Arg Ser Gly Leu Gly
           20           25           30
Pro Ile Lys Ala Tyr Pro Arg Leu Gly Pro Pro Thr Pro Gly Glu Pro

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |  |  |
| Glu | Ala | Pro | Ala | Gln | Asp | Arg | Thr | Phe | His | Cys | Glu | Ile | Cys | Asn | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Lys | Val | Asn | Ser | Lys | Val | Gln | Leu | Lys | Gln | His | Ile | Ser | Ser | Arg | Arg |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| His | Glu | Ile | Val | Asp | Pro | Val |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     |     | 85  |     | 87  |     |     |     |     |     |     |     |     |     |  |  |

<210> 3334  
 <211> 35  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Ala | Gly | Pro | Ser | Leu | Pro | Ser | Asn | Leu | Arg | Gln | Ile | Phe | Gln | Ser | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Pro | Pro | Phe | Met | Asp | Ile | Leu | Leu | Leu | Leu | Leu | Phe | Phe | Met | Ile | Ile |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Phe | Ala | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 35  |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3335  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Val | Glu | Ser | Arg | Asn | Ser | Arg | Val | Gln | Pro | Arg | Val | Arg | Leu | Asn | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Arg | Thr | Asn | Ala | Ile | Asp | Phe | Leu | Met | Asp | Arg | Asn | Asn | Val | Val | Pro |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Ile | Asn | Thr | Leu | Ile | Leu | Arg | Thr | Asn | Gln | Gln | Tyr | Leu | Asn | Leu |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Ile | Ser | Thr | Ser | Val | Thr | Ala | Asp | Val | Glu | Asp | Phe | Ser | Thr | Phe | Phe |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Phe | Leu | Asp | Ser | Gln | Asp | Lys | Ser | Ala | Val | Ile | Ala | Lys | Asn | Met | Tyr |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Tyr | Leu | Thr | Gln | Asp | Glu | Ser | Ile | Ile | Ser | Ala | Ala | Thr | Leu | Trp |     |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Ile | Ile | Ala | Asp | Phe | Asp | Lys | Pro | Ser | Gly | Arg | Lys | Leu | Leu | Phe | Asn |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ala | Leu | Lys | His | Met | Ile | Thr | Ser | Val | His | Ser | Arg | Val | Gly | Ile | Ile |  |  |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Tyr | Asn | Pro | Phe | Phe |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 130 |     |     | 133 |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3336  
 <211> 334  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Pro | Ser | Ser | Tyr | Ser | Ser | Asp | Glu | Leu | Ser | Pro | Gly | Glu | Pro | Leu | Thr |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ser | Pro | Pro | Trp | Ala | Pro | Leu | Gly | Ala | Pro | Glu | Arg | Pro | Glu | His | Leu |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Leu | Asn | Arg | Val | Leu | Glu | Arg | Leu | Ala | Gly | Gly | Ala | Thr | Arg | Asp | Ser |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ala | Ala | Ser | Asp | Ile | Leu | Leu | Asp | Asp | Ile | Val | Leu | Thr | His | Ser | Leu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Phe | Leu | Pro | Thr | Glu | Lys | Phe | Leu | Gln | Glu | Leu | His | Gln | Tyr | Phe | Val |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Arg | Ala | Gly | Gly | Met | Glu | Gly | Pro | Glu | Gly | Leu | Gly | Arg | Lys | Gln | Ala |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Cys | Leu | Ala | Met | Leu | Leu | His | Phe | Leu | Asp | Thr | Tyr | Gln | Gly | Leu | Leu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gln | Glu | Glu | Glu | Gly | Ala | Gly | His | Ile | Ile | Lys | Asp | Leu | Tyr | Leu | Leu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Met | Lys | Asp | Glu | Ser | Leu | Tyr | Gln | Gly | Leu | Arg | Glu | Asp | Thr | Leu |  |  |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Arg | Leu | His | Gln | Leu | Val | Glu | Thr | Val | Glu | Leu | Lys | Ile | Pro | Glu | Glu |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Asn | Gln | Pro | Pro | Ser | Lys | Gln | Val | Lys | Pro | Leu | Phe | Arg | His | Phe | Arg |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Arg | Ile | Asp | Ser | Cys | Leu | Gln | Thr | Arg | Val | Ala | Phe | Arg | Gly | Ser | Asp |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Glu | Ile | Phe | Cys | Arg | Val | Tyr | Met | Pro | Asp | His | Ser | Tyr | Val | Thr | Ile |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Arg | Ser | Arg | Leu | Ser | Ala | Ser | Val | Gln | Asp | Ile | Leu | Gly | Ser | Val | Thr |  |  |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Glu | Lys | Leu | Gln | Tyr | Ser | Glu | Glu | Pro | Ala | Gly | Arg | Glu | Asp | Ser | Leu |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Ile | Leu | Val | Ala | Val | Ser | Ser | Ser | Gly | Glu | Lys | Val | Leu | Leu | Gln | Pro |  |  |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Thr | Glu | Asp | Cys | Val | Phe | Thr | Ala | Leu | Gly | Ile | Asn | Ser | His | Leu | Phe |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ala | Cys | Thr | Arg | Asp | Ser | Tyr | Glu | Ala | Leu | Val | Pro | Leu | Pro | Glu | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ile | Gln | Val | Ser | Pro | Gly | Asp | Thr | Glu | Ile | His | Arg | Val | Glu | Pro | Glu |  |  |
| 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Asp | Val | Ala | Asn | His | Leu | Thr | Ala | Phe | His | Trp | Glu | Leu | Phe | Arg | Cys |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Val | His | Glu | Leu | Glu | Phe | Val | Asp | Tyr | Val | Phe | His | Gly | Glu |     |     |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 334 |     |     |  |  |

&lt;210&gt; 3337

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(134)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3337

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Lys | Ile | Leu | Leu | Cys | Leu | Ala | Asn | Gln | Phe | Pro | Asp | Ile | Ser | Phe | Cys |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Pro | Ala | Leu | Pro | Ala | Val | Val | Ala | Leu | Leu | Leu | His | Tyr | Ser | Ile | Asp |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Glu | Ala | Glu | Cys | Phe | Glu | Lys | Ala | Cys | Arg | Ile | Leu | Ala | Cys | Asn | Asp |  |  |
|     | 35  |     |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |  |  |
| Pro | Gly | Arg | Arg | Leu | Ile | Asp | Gln | Ser | Phe | Leu | Ala | Phe | Glu | Ser | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Cys | Met | Thr | Phe | Gly | Asp | Leu | Val | Asn | Lys | Tyr | Cys | Gln | Ala | Ala | His |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Lys | Leu | Met | Val | Ala | Val | Ser | Glu | Asp | Val | Leu | Gln | Val | Tyr | Ala | Asp |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Trp | Gln | Arg | Trp | Leu | Phe | Gly | Glu | Leu | Pro | Leu | Cys | Tyr | Phe | Ala | Arg |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Val | Phe | Asp | Val | Phe | Leu | Val | Glu | Gly | Tyr | Lys | Val | Leu | Tyr | Arg | Val |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Leu | Ala | Xaa | Xaa | Phe |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 130 |     |     |     | 134 |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3338  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Phe | Arg | Gly | Lys | Val | Arg | Gly | Arg | Ser | Ala | Glu | Met | Pro | Gly | Ser | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Thr | Ala | Leu | Thr | Val | Asp | Arg | Thr | Tyr | Ser | Asp | Pro | Gly | Arg | His | His |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Cys | Lys | Ser | Arg | Val | Glu | Arg | His | Asp | Met | Asn | Thr | Leu | Ser | Leu |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Leu | Asn | Ile | Arg | Arg | Gly | Gly | Ser | Asp | Thr | Asn | Leu | Asn | Phe | Asp |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Val | Pro | Asp | Gly | Ile | Leu | Asp | Phe | His | Lys | Val | Lys | Leu | Thr | Ala | Asp |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ser | Leu | Lys | Gln | Lys | Ile | Leu | Lys | Val | Thr | Glu | Gln | Ile | Lys | Ile | Glu |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gln | Thr | Ser | Arg | Asp | Gly | Asn | Val | Ala | Glu | Tyr | Leu | Lys | Leu | Val | Asn |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Asn | Ala | Asp | Lys | Gln | Gln | Ala | Gly | Arg | Ile | Lys | Gln | Val | Phe | Glu | Lys |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Asn | Gln | Lys |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 130 |     | 132 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3339  
 <211> 221  
 <212> PRT  
 <213> Homo sapiens

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Ala | Ala | Ala | Ala | Ser | Asn | Trp | Gly | Leu | Ile | Thr | Asn | Ile | Val | Asn | Ser |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ile | Val | Gly | Val | Ser | Val | Leu | Thr | Met | Pro | Phe | Cys | Phe | Lys | Gln | Cys |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Gly | Ile | Val | Leu | Gly | Ala | Leu | Leu | Val | Phe | Cys | Ser | Trp | Met | Thr |     |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| His | Gln | Ser | Cys | Met | Phe | Leu | Val | Lys | Ser | Ala | Ser | Leu | Ser | Lys | Arg |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Arg | Thr | Tyr | Ala | Gly | Leu | Ala | Phe | His | Ala | Tyr | Gly | Lys | Ala | Gly | Lys |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Met | Leu | Val | Glu | Thr | Ser | Met | Ile | Gly | Leu | Met | Leu | Gly | Thr | Cys | Ile |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Ala | Phe | Tyr | Val | Val | Ile | Gly | Asp | Leu | Gly | Ser | Asn | Phe | Phe | Ala | Arg |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Phe | Gly | Phe | Gln | Val | Gly | Gly | Thr | Phe | Arg | Met | Phe | Leu | Leu | Phe |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ala | Val | Ser | Leu | Cys | Ile | Val | Leu | Pro | Leu | Ser | Leu | Gln | Arg | Asn | Met |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Met | Ala | Ser | Ile | Gln | Ser | Phe | Ser | Ala | Met | Ala | Leu | Leu | Phe | Tyr | Thr |  |  |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     | 150 |     |     |     | 155 |     | 160 |     |     |     |     |     |
| Val | Phe | Met | Phe | Val | Ile | Val | Leu | Ser | Ser | Leu | Lys | His | Gly | Leu | Phe |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Gly | Gln | Trp | Leu | Arg | Arg | Val | Ser | Tyr | Val | Arg | Trp | Glu | Gly | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Phe | Arg | Cys | Ile | Pro | Ile | Phe | Gly | Met | Ser | Phe | Ala | Cys | Gln | Ser | Gln |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Leu | Pro | Thr | Tyr | Asp | Ser | Leu | Asp | Glu | Pro | Ser | Val |     |     |     |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 | 221 |     |     |     |     |

<210> 3340  
 <211> 56  
 <212> PRT  
 <213> Homo sapiens

<400> 3340

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Pro | Leu | Gln | Val | Leu | Gln | Glu | Ala | Phe | Ser | Arg | Cys | Val | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Leu | Thr | Arg | Ser | Ser | Lys | Pro | Ser | Asp | Met | Ser | Val | Gln | Val | Cys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Tyr | Ile | Ser | Lys | Cys | Tyr | Ser | Val | Ala | Ala | Gln | Phe | Glu | Glu | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Glu | Lys | Ile | Thr | Glu | Met | Pro |     |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  | 56  |     |     |     |     |     |     |     |     |

<210> 3341  
 <211> 95  
 <212> PRT  
 <213> Homo sapiens

<400> 3341

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Ser | Val | Ile | Lys | Arg | Thr | Pro | Arg | Lys | Tyr | Leu | Ala | Glu | Ile | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Ile | Asp | Asp | Phe | Ser | Asn | Lys | Glu | His | Leu | Lys | Glu | Lys | Leu | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Tyr | Ile | Lys | Leu | Trp | Asn | Gly | Leu | Val | Lys | Val | Phe | Arg | Asn | Glu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Arg | Arg | Glu | Gly | Leu | Ile | Gln | Ala | Arg | Ser | Ile | Gly | Ala | Gln | Lys | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Leu | Gly | Gln | Val | Leu | Ile | Tyr | Leu | Asp | Ala | His | Cys | Glu | Val | Ala |
| 65  |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Val | Asn | Trp | Tyr | Ala | Pro | Leu | Val | Ala | Pro | Ile | Ser | Lys | Asp | Arg |     |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |

<210> 3342  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 3342

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Leu | Thr | Trp | Trp | Pro | Leu | Phe | Arg | Asp | Val | Ser | Phe | Tyr | Ile | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Asp | Leu | Ile | Met | Leu | Ile | Ile | Phe | Phe | Leu | Asp | Asn | Val | Ile | Met | Trp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Glu | Ser | Leu | Leu | Leu | Leu | Thr | Ala | Tyr | Phe | Cys | Tyr | Val | Val | Phe |

```
<210> 3343
<211> 128
<212> PRT
<213> Homo sapiens
```

```
<210> 3344
<211> 67
<212> PRT
<213> Homo sapiens
```

```
<210> 3345
<211> 67
```

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3345

```

Ser Pro Ala Cys Ile Thr Ser Ser Leu Ser Gln His Ile Ala Asp Pro
 1          5          10          15
Arg Ala Ala Pro Thr Glu Val Lys Val Arg Val Met Asn Ser Thr Ala
          20          25          30
Ile Ser Leu Gln Trp Asn Arg Val Tyr Ser Asp Thr Val Gln Gly Gln
          35          40          45
Leu Arg Glu Tyr Arg Val Arg Lys Pro Ala Pro Asp Ser Pro Asn Tyr
 50          55          60
Pro Ala His
65          67

```

&lt;210&gt; 3346

&lt;211&gt; 501

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3346

```

Ala Gly Ile Arg His Glu Ala Pro Pro Thr Thr Ser Asn Arg His Arg
 1          5          10          15
Arg Gln Ile Asp Arg Gly Val Thr His Leu Asn Ile Ser Gly Leu Lys
          20          25          30
Met Pro Arg Gly Ile Ala Ile Asp Trp Val Ala Gly Asn Val Tyr Trp
          35          40          45
Thr Asp Ser Gly Arg Asp Val Ile Glu Val Ala Gln Met Lys Gly Glu
          50          55          60
Asn Arg Lys Thr Leu Ile Ser Gly Met Ile Asp Glu Pro His Ala Ile
          65          70          75          80
Val Val Asp Pro Leu Arg Gly Thr Met Tyr Trp Ser Asp Trp Gly Asn
          85          90          95
His Pro Lys Ile Glu Thr Ala Ala Met Asp Gly Thr Leu Arg Glu Thr
          100          105          110
Leu Val Gln Asp Asn Ile Gln Trp Pro Thr Gly Leu Ala Val Asp Tyr
          115          120          125
His Asn Glu Arg Leu Tyr Trp Ala Asp Ala Lys Leu Ser Val Ile Gly
          130          135          140
Ser Ile Arg Leu Asn Gly Thr Asp Pro Ile Val Ala Ala Asp Ser Lys
          145          150          155          160
Arg Gly Leu Ser His Pro Phe Ser Ile Asp Val Phe Glu Asp Tyr Ile
          165          170          175
Tyr Gly Val Thr Tyr Ile Asn Asn Arg Val Phe Lys Ile His Lys Phe
          180          185          190
Gly His Ser Pro Leu Val Asn Leu Thr Gly Gly Leu Ser His Ala Ser
          195          200          205
Asp Val Val Leu Tyr His Gln His Lys Gln Pro Glu Val Thr Asn Pro
          210          215          220
Cys Asp Arg Lys Lys Cys Glu Trp Leu Cys Leu Leu Ser Pro Ser Gly
          225          230          235          240
Pro Val Cys Thr Cys Pro Asn Gly Lys Arg Leu Asp Asn Gly Thr Cys
          245          250          255
Val Pro Val Pro Ser Pro Thr Pro Pro Pro Asp Ala Pro Arg Pro Gly
          260          265          270
Thr Cys Asn Leu Gln Cys Phe Asn Gly Gly Ser Cys Phe Leu Asn Ala
          275          280          285
Arg Arg Gln Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr Gly Asp Lys
          290          295          300
Cys Glu Leu Asp Gln Cys Trp Glu His Cys Arg Asn Gly Gly Thr Cys

```

```

305          310          315          320
Ala Ala Ser Pro Ser Gly Met Pro Thr Cys Arg Cys Pro Thr Gly Phe
          325          330          335
Thr Gly Pro Lys Cys Thr Gln Gln Val Cys Ala Gly Tyr Cys Ala Asn
          340          345          350
Asn Ser Thr Cys Thr Val Asn Gln Gly Asn Gln Pro Gln Cys Arg Cys
          355          360          365
Leu Pro Gly Phe Leu Gly Asp Arg Cys Gln Tyr Arg Gln Cys Ser Gly
          370          375          380
Tyr Cys Glu Asn Phe Gly Thr Cys Gln Met Ala Ala Asp Gly Ser Arg
385          390          395          400
Gln Cys Arg Cys Thr Ala Tyr Phe Glu Gly Ser Arg Cys Glu Val Asn
          405          410          415
Lys Cys Ser Arg Cys Leu Glu Gly Ala Cys Val Val Asn Lys Gln Ser
          420          425          430
Gly Asp Val Thr Cys Asn Cys Thr Asp Gly Arg Val Ala Pro Ser Cys
          435          440          445
Leu Thr Cys Val Gly His Cys Ser Asn Gly Gly Ser Cys Thr Met Asn
          450          455          460
Ser Lys Met Met Pro Glu Cys Gln Cys Pro Pro His Met Thr Gly Pro
465          470          475          480
Arg Cys Glu Glu His Val Phe Ser Gln Gln Gln Pro Gly His Ile Ala
          485          490          495
Ser Ile Leu Ile Pro
          500 501

```

&lt;210&gt; 3347

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(103)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3347

```

Ser Pro Glu Met Glu Ser His Pro Ile Thr Gln Ala Gly Val Gln Trp
 1          5          10          15
His His Leu Ser Ser Leu Gln Pro Leu Pro Pro Gly Phe Lys Xaa Phe
          20          25          30
Ser Cys Phe Ser Leu Pro Glu Xaa Leu Gly Tyr Arg His Val Pro Pro
          35          40          45
Cys Leu Ala Asn Ser Val Phe Ser Val Glu Met Gly Phe Leu His Val
          50          55          60
Gly Gln Ala Gly Leu Glu Leu Leu Thr Ser Gly Asp Leu Pro Ala Leu
65          70          75          80
Ala Ser Gln Ser Ala Gly Ile Thr Gly Ser His Arg Ala Arg Pro Glu
          85          90          95
Asn Gly Phe Glu Asn Ile Phe
          100          103

```

&lt;210&gt; 3348

&lt;211&gt; 390

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(390)

&lt;223&gt; Xaa = any amino acid or nothing

```

<400> 3348
Leu Ser Lys Ile Thr Met Pro Val Ile Cys Asn Glu Pro Leu Ser Phe
 1          5          10          15
Ile Gln Arg Leu Thr Glu Tyr Met Xaa His Thr Tyr Phe Ile His Arg
          20          25          30
Pro Ser Ser Leu Ser Asp Pro Val Asp Arg Met Gln Cys Val Ala Ala
          35          40          45
Phe Ala Val Ser Ala Val Ala Ser Gln Trp Glu Arg Thr Gly Lys Pro
          50          55          60
Phe Asn Pro Leu Leu Gly Glu Thr Tyr Glu Leu Val Arg Asp Asp Leu
          65          70          75          80
Gly Phe Arg Leu Ile Ser Glu Gln Val Ser His His Pro Pro Ile Ser
          85          90          95
Ala Phe His Ala Glu Gly Leu Asn Asn Asp Phe Ile Phe His Gly Ser
          100          105          110
Ile Tyr Pro Lys Leu Lys Phe Trp Gly Lys Ser Val Glu Ala Glu Pro
          115          120          125
Lys Gly Thr Ile Thr Leu Glu Leu Leu Glu His Asn Glu Ala Tyr Thr
          130          135          140
Trp Thr Asn Pro Thr Cys Cys Val His Asn Ile Ile Val Gly Lys Leu
          145          150          155          160
Trp Ile Glu Gln Tyr Gly Asn Val Glu Ile Ile Asn His Lys Thr Gly
          165          170          175
Asp Lys Cys Val Leu Asn Phe Lys Pro Cys Gly Leu Phe Gly Lys Glu
          180          185          190
Leu His Lys Val Glu Gly Tyr Ile Gln Asp Lys Ser Lys Lys Lys Leu
          195          200          205
Cys Ala Leu Tyr Gly Lys Trp Thr Glu Cys Leu Tyr Ser Val Asp Pro
          210          215          220
Ala Thr Phe Asp Ala Tyr Lys Lys Asn Asp Lys Lys Asn Thr Glu Glu
          225          230          235          240
Lys Lys Asn Ser Lys Gln Met Ser Thr Ser Glu Glu Leu Asp Glu Met
          245          250          255
Pro Val Pro Asp Ser Glu Ser Val Phe Ile Ile Pro Gly Ser Val Leu
          260          265          270
Leu Trp Arg Ile Ala Pro Arg Pro Pro Asn Ser Ala Gln Met Tyr Asn
          275          280          285
Phe Thr Ser Phe Ala Met Val Leu Asn Glu Val Asp Lys Asp Met Glu
          290          295          300
Ser Val Ile Pro Lys Thr Asp Cys Arg Leu Arg Pro Asp Ile Arg Ala
          305          310          315          320
Met Glu Asn Gly Glu Ile Asp Gln Ala Ser Glu Glu Lys Lys Arg Leu
          325          330          335
Glu Glu Lys Gln Arg Ala Ala Arg Lys Asn Arg Ser Lys Ser Glu Glu
          340          345          350
Asp Trp Lys Thr Arg Trp Phe His Gln Gly Pro Asn Pro Tyr Asn Gly
          355          360          365
Ala Gln Asp Trp Ile Tyr Ser Gly Ser Tyr Trp Asp Arg Asn Tyr Phe
          370          375          380
Asn Leu Pro Asp Ile Tyr
          385          390

```

<210> 3349

<211> 92

<212> PRT

<213> Homo sapiens

<221> misc\_feature

<222> (1)...(92)

<223> Xaa = any amino acid or nothing

```

<400> 3349
Asn Phe Ala Ser Ser Ser Gly Lys Tyr Leu Arg Thr Gln Lys Ile Lys
 1           5           10           15
Cys Leu Asn Asn Lys Phe Thr Pro Phe Pro Thr Thr Glu Lys Lys Xaa
           20           25           30
Ser Gln Ser Val Arg Pro Pro Xaa Ser Asn Arg Ile Tyr Xaa Ile Leu
           35           40           45
Gln Ser Xaa Asn Ile Ser Phe Ser Xaa Leu Pro Asn Xaa Asn Phe Ala
           50           55           60
Ser Ser Ser Gly Lys Tyr Leu Arg Thr Gln Lys Ile Lys Cys Leu Asn
           65           70           75           80
Asn Lys Phe Thr Pro Phe Pro Thr Thr Glu Lys Lys
           85           90           92

```

```

<210> 3350
<211> 237
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(237)
<223> Xaa = any amino acid or nothing

```

```

<400> 3350
Gly Ala Pro Ala Gln Asp Cys Ile Cys Leu Pro Phe Pro Phe His Ser
 1           5           10           15
Ser Phe Leu Glu Ser Asp Ile Arg Lys Pro Ala Arg Arg Lys Ile Gln
           20           25           30
Thr Thr Asn Pro Asp Phe Leu Leu Leu Leu Phe Met Ser Val Pro Val
           35           40           45
Val Ser Ala Pro Pro Phe Cys Pro Pro Ala Glu Gly Ser Arg Asp Gly
           50           55           60
Arg Pro Lys Ala Ser Val Ala Arg Pro Ala Ala Val His Glu His His
           65           70           75           80
Ser Pro Arg Asp Cys Gly His Leu Pro Asp Val Ile Arg Ser Ser Leu
           85           90           95
Gly Gly Trp Gln Pro His Xaa Pro Ala Gln Pro Glu Asn Arg Leu Leu
           100           105           110
Xaa Leu Leu Pro Val Glu Xaa Gly His Gln His Pro Thr Val Ser Pro
           115           120           125
Val Pro Xaa Ala Gly Ser Pro Gly Gly Ala Ser Gly Trp Pro Gly Pro
           130           135           140
Gly Gln Ala Trp Arg Val Arg Val Pro Gly Pro His Pro Leu Cys Pro
           145           150           155           160
Pro Ala Ser Pro Pro Ser Pro Val Gln Gln Xaa Xaa Glu Ser Val Ala
           165           170           175
Ala Gly Ser Gly Leu Pro Gly Cys Val Leu Cys Ala Ala Gly Arg Arg
           180           185           190
Pro Gly Pro Leu Pro Leu Leu Cys Val Glu Val Gly Gln Ala Leu Pro
           195           200           205
Pro Gly Ala Trp Val Ser Ser Ser Gly Gln Arg Pro Gly Leu Thr His
           210           215           220
Pro Leu Ala Tyr Ser His Gly Cys Val Pro Ser Glu Gly
           225           230           235           237

```

```

<210> 3351
<211> 142

```



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3351

```

Met Ala Ala Val Val Ala Ala Thr Ala Leu Lys Gly Arg Gly Ala Arg
 1          5          10          15
Asn Ala Arg Val Leu Arg Gly Ile Leu Ala Gly Ala Thr Ala Asn Lys
      20          25          30
Ala Ser His Asn Arg Thr Arg Ala Leu Gln Ser His Ser Ser Pro Glu
      35          40          45
Gly Lys Glu Glu Pro Glu Pro Leu Ser Pro Glu Leu Glu Tyr Ile Pro
      50          55          60
Arg Lys Arg Gly Lys Asn Pro Met Lys Ala Val Gly Leu Ala Trp Ala
      65          70          75          80
Ile Gly Phe Pro Cys Gly Ile Leu Leu Phe Ile Leu Thr Lys Arg Glu
      85          90          95
Val Asp Lys Asp Arg Val Lys Gln Met Lys Ala Arg Gln Asn Met Arg
      100          105          110
Leu Ser Asn Thr Gly Glu Tyr Glu Ser Gln Arg Phe Arg Ala Ser Ser
      115          120          125
Gln Ser Ala Pro Ser Pro Asp Val Gly Ser Gly Val Gln Thr
      130          135          140          142

```

&lt;210&gt; 3352

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3352

```

Arg Thr Leu Phe Arg Gly Arg Arg Arg Arg Glu Asp Asp Arg Ile Ser
 1          5          10          15
Arg Pro His Pro Ser Thr Ala Glu Ser Lys Ala Pro Thr Pro Lys Phe
      20          25          30
Asp Leu Leu Ala Ser Asn Phe Pro Pro Leu Pro Gly Ser Ser Ser Arg
      35          40          45
Met Pro Gly Glu Leu Val Leu Glu Asn Arg Met Ser Asp Val Val Lys
      50          55          60
Gly Val Tyr Lys Glu Lys Asp Asn Glu Glu Leu Thr Ile Ser Cys Pro
      65          70          75          80
Val Pro Ala Asp Glu Gln Thr Glu Cys Thr Ser Ala Gln Gln Leu Asn
      85          90          95
Met Ser Thr Ser Ser Pro Cys Ala Ala Glu Leu Thr Ala Leu Ser Thr
      100          105          110
Thr Gln Gln Glu Lys Asp Leu Ile Glu Asp Ser Ser Val Gln Lys Asp
      115          120          125
Gly Leu Asn Gln Thr Thr Ile Pro Val Ser Pro Pro Ser Thr Thr Lys
      130          135          140
Pro Ser Arg Ala Ser Thr Ala Ser Pro Cys Asn Asn Asn Ile Asn Ala
      145          150          155          160
Ala Thr Ala Val Ala Leu Gln Glu Pro Arg Lys Leu Ser Tyr Ala Glu
      165          170          175
Val Cys Gln Lys Pro Pro Lys Glu Pro Ser Ser Val Leu Val Gln Pro
      180          185          190
Leu Arg Glu Leu Arg Ser Asn Val Val Ser Pro Thr Lys Asn Glu Asp
      195          200          205
Asn Gly Ala Pro Glu Asn Ser Val Glu Lys Pro His Glu Lys Pro Glu
      210          215          220
Ala Arg Ala Ser Lys Asp Tyr Ser Gly Phe Arg Gly Asn Ile Ile Pro
      225          230          235          240
Arg Gly Ala Ala Gly Lys Ile Arg Glu Gln Arg Arg Gln Phe Ser His

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Arg | Ala | Ile | Pro | Gln | Gly | Val | Thr | Arg | Arg | Asn | Gly | Lys | Glu | Gln | Tyr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Pro | Pro | Arg | Ser | Pro | Lys |     |     |     |     |     |     |     |     |     |
|     |     |     | 275 |     |     | 279 |     |     |     |     |     |     |     |     |     |

<210> 3353  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

<400> 3353

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ala | Thr | Pro | Thr | Trp | Thr | Ala | Pro | Leu | Thr | Ala | Thr | Pro | Thr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | His | Gln | Tyr | Gly | Pro | Ala | Arg | Val | Pro | Asn | Gly | Ala | Pro | Arg | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Pro | Pro | Pro | Gly | Lys | Arg | Glu | Cys | Arg | Val | Gly | Gln | Tyr | Val | Val |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Leu | Thr | Ser | Phe | Glu | Gln | Leu | Ala | Leu | Pro | Val | Leu | Arg | Asn | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Cys | Ser | Ser | Gly | Pro | Gly | Gln | Arg | Val | Cys | Val | Ile | Asp | Glu | Ile |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Lys | Met | Glu | Leu | Phe | Ser | Gln | Leu | Phe | Ile | Gln | Ala | Val | Arg | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Leu | Ser | Thr | Pro | Gly | Thr | Ile | Ile | Leu | Gly | Thr | Ile | Pro | Val | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Gly | Lys | Pro | Leu | Ala | Leu | Val | Glu | Glu | Ile | Arg | Asn | Arg | Lys | Asp |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Lys | Val | Phe | Asn | Val | Thr | Lys | Glu | Asn | Arg | Asn | His | Leu | Leu | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ile | Val | Thr | Cys | Val | Gln | Ser | Ser | Arg | Lys |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |

<210> 3354  
 <211> 404  
 <212> PRT  
 <213> Homo sapiens

<400> 3354

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Met | Glu | Pro | Val | Gly | Cys | Cys | Gly | Glu | Cys | Arg | Gly | Ser | Ser | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Pro | Arg | Ser | Thr | Phe | Val | Leu | Ser | Asn | Leu | Ala | Glu | Val | Val | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Val | Leu | Thr | Phe | Leu | Pro | Ala | Lys | Ala | Leu | Leu | Arg | Val | Ala | Cys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Cys | Arg | Leu | Trp | Arg | Glu | Cys | Val | Arg | Arg | Val | Leu | Arg | Thr | His |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ser | Val | Thr | Trp | Ile | Ser | Ala | Gly | Leu | Ala | Glu | Ala | Gly | His | Leu |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Gly | His | Cys | Leu | Val | Arg | Val | Val | Ala | Glu | Glu | Leu | Glu | Asn | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Ile | Leu | Pro | His | Thr | Val | Leu | Tyr | Met | Ala | Asp | Ser | Glu | Thr | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Ser | Leu | Glu | Glu | Cys | Arg | Gly | His | Lys | Arg | Ala | Arg | Lys | Arg | Thr |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Met | Glu | Thr | Ala | Leu | Ala | Leu | Glu | Lys | Leu | Phe | Pro | Lys | Gln | Cys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Val | Leu | Gly | Ile | Val | Thr | Pro | Gly | Ile | Val | Val | Thr | Pro | Met | Gly |

|   |     |     |     |     |  |     |
|---|-----|-----|-----|-----|--|-----|
| 145   |     | 150 |     | 155 |  | 160 |
| Ser Gly Ser Asn Arg Pro Gln Glu Ile Glu Ile Gly Glu Ser Gly Phe |     |     |     |     |  |     |
|   | 165 |     | 170 |     |  | 175 |
| Ala Leu Leu Phe Pro Gln Ile Glu Gly Ile Lys Ile Gln Pro Phe His |     |     |     |     |  |     |
|   | 180 |     | 185 |     |  | 190 |
| Phe Ile Lys Asp Pro Lys Asn Leu Thr Leu Glu Arg His Gln Leu Thr |     |     |     |     |  |     |
|   | 195 |     | 200 |     |  | 205 |
| Glu Val Gly Leu Leu Asp Asn Pro Glu Leu Arg Val Val Leu Val Phe |     |     |     |     |  |     |
|   | 210 |     | 215 |     |  | 220 |
| Gly Tyr Asn Cys Cys Lys Val Gly Ala Ser Asn Tyr Leu Gln Gln Val |     |     |     |     |  |     |
|   | 225 |     | 230 |     |  | 235 |
| Val Ser Thr Phe Ser Asp Met Asn Ile Ile Leu Ala Gly Gly Gln Val |     |     |     |     |  |     |
|   | 245 |     | 250 |     |  | 255 |
| Asp Asn Leu Ser Ser Leu Thr Ser Glu Lys Asn Pro Leu Asp Ile Asp |     |     |     |     |  |     |
|   | 260 |     | 265 |     |  | 270 |
| Ala Ser Gly Val Val Gly Leu Ser Phe Ser Gly His Arg Ile Gln Ser |     |     |     |     |  |     |
|   | 275 |     | 280 |     |  | 285 |
| Ala Thr Val Leu Leu Asn Glu Asp Val Ser Asp Glu Lys Thr Ala Glu |     |     |     |     |  |     |
|   | 290 |     | 295 |     |  | 300 |
| Ala Ala Met Gln Arg Leu Lys Ala Ala Asn Ile Pro Glu His Asn Thr |     |     |     |     |  |     |
|   | 305 |     | 310 |     |  | 315 |
| Ile Gly Phe Met Phe Ala Cys Val Gly Arg Gly Phe Gln Tyr Tyr Arg |     |     |     |     |  |     |
|   | 325 |     | 330 |     |  | 335 |
| Ala Lys Gly Asn Val Glu Ala Asp Ala Phe Arg Lys Phe Phe Pro Ser |     |     |     |     |  |     |
|   | 340 |     | 345 |     |  | 350 |
| Val Pro Leu Phe Gly Phe Phe Gly Asn Gly Glu Ile Gly Cys Asp Arg |     |     |     |     |  |     |
|   | 355 |     | 360 |     |  | 365 |
| Ile Val Thr Gly Asn Phe Ile Leu Arg Lys Cys Asn Glu Val Lys Asp |     |     |     |     |  |     |
|   | 370 |     | 375 |     |  | 380 |
| Asp Asp Leu Phe His Ser Tyr Thr Thr Ile Met Ala Leu Ile His Leu |     |     |     |     |  |     |
|   | 385 |     | 390 |     |  | 395 |
| Gly Ser Ser Lys   |     |     |     |     |  | 400 |
|   | 404 |     |     |     |  |     |

&lt;210&gt; 3355

&lt;211&gt; 235

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3355

|   |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|---|-----|---|-----|----|--|--|--|--|--|--|--|--|--|-----|
| Gly Thr Ser Ser Gly Leu Gly Gly Asp Arg Leu Ala Ala Pro Gly Pro |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
| 1   |     | 5 |     | 10 |  |  |  |  |  |  |  |  |  | 15  |
| Ser Pro Pro Ser Phe Tyr Pro Gln Gly Arg Gly Glu Arg Ala Tyr Asp |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 20  |   | 25  |    |  |  |  |  |  |  |  |  |  | 30  |
| Ile Tyr Ser Arg Leu Leu Arg Glu Arg Ile Val Cys Val Met Gly Pro |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 35  |   | 40  |    |  |  |  |  |  |  |  |  |  | 45  |
| Ile Asp Asp Ser Val Ala Ser Leu Val Ile Ala Gln Leu Leu Phe Leu |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 50  |   | 55  |    |  |  |  |  |  |  |  |  |  | 60  |
| Gln Ser Glu Ser Asn Lys Lys Pro Ile His Met Tyr Ile Asn Ser Pro |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 65  |   | 70  |    |  |  |  |  |  |  |  |  |  | 80  |
| Gly Gly Val Val Thr Ala Gly Leu Ala Ile Tyr Asp Thr Met Gln Tyr |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 85  |   | 90  |    |  |  |  |  |  |  |  |  |  | 95  |
| Ile Leu Asn Pro Ile Cys Thr Trp Cys Val Gly Gln Ala Ala Ser Met |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 100 |   | 105 |    |  |  |  |  |  |  |  |  |  | 110 |
| Gly Ser Leu Leu Leu Ala Ala Gly Thr Pro Gly Met Arg His Ser Leu |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 115 |   | 120 |    |  |  |  |  |  |  |  |  |  | 125 |
| Pro Asn Ser Arg Ile Met Ile His Gln Pro Ser Gly Gly Ala Arg Gly |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 130 |   | 135 |    |  |  |  |  |  |  |  |  |  | 140 |
| Gln Ala Thr Asp Ile Ala Ile Gln Ala Glu Glu Ile Met Lys Leu Lys |     |   |     |    |  |  |  |  |  |  |  |  |  |     |
|   | 145 |   | 150 |    |  |  |  |  |  |  |  |  |  | 160 |
| Lys Gln Leu Tyr Asn Ile Tyr Ala Lys His Thr Lys Gln Ser Leu Gln |     |   |     |    |  |  |  |  |  |  |  |  |  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |  |  |
| Val | Ile | Glu | Ser | Ala | Met | Glu | Arg | Asp | Arg | Tyr | Met | Ser | Pro | Met | Glu |  |  |  |  |
|     |     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |  |  |  |  |
| Ala | Gln | Glu | Phe | Gly | Ile | Leu | Asp | Lys | Val | Leu | Val | His | Pro | Pro | Gln |  |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |  |
| Asp | Gly | Glu | Asp | Glu | Pro | Thr | Leu | Val | Gln | Lys | Glu | Pro | Val | Glu | Ala |  |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |  |
| Ala | Pro | Ala | Ala | Glu | Pro | Val | Pro | Ala | Ser | Thr |     |     |     |     |     |  |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     |  |  |  |  |

&lt;210&gt; 3356

&lt;211&gt; 84

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(83)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3356

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Phe | Asn | Tyr | Asn | Phe | Cys | Arg | Asn | Leu | His | Met | Pro | Ser | Phe | Leu | Val |  |  |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |  |  |
| Xaa | Pro | Gly | Met | Cys | Gly | Leu | Leu | Ala | Lys | His | Leu | Ser | Phe | His | Ile |  |  |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |  |
| Val | Gly | Ala | Phe | Leu | Ile | Thr | Leu | Gly | Val | Ala | Ala | Leu | Cys | Lys | Phe |  |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |  |
| Ala | Val | Ala | Xaa | Pro | Arg | Lys | Lys | Ala | Tyr | Ala | Asp | Phe | Tyr | Arg | Asn |  |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |  |
| Tyr | Asn | Xaa | Ile | Lys | Glu | Phe | Glu | Val | Arg | Lys | Ala | Asn | Ile | Ser | Gln |  |  |  |  |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |  |  |  |  |
| Ser | Thr | Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|     |     | 83  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |

&lt;210&gt; 3357

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(133)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3357

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Ala | Leu | Gly | Ser | Cys | Gly | Gly | Leu | Leu | Gly | Thr | Gly | Leu | Leu | Lys | Gly |  |  |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |  |  |
| Thr | Met | Ser | Gly | Thr | Leu | Trp | Ser | Lys | Gly | Ile | Phe | Ala | Gly | Tyr | Lys |  |  |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |  |
| Arg | Arg | Ile | Arg | Ile | Gln | Arg | Glu | His | Thr | Ala | Val | Leu | Lys | Ile | Glu |  |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |  |
| Gly | Val | Tyr | Ala | Arg | Asp | Glu | Thr | Glu | Phe | Tyr | Leu | Arg | Met | Ile | Cys |  |  |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |  |  |  |  |
| Ala | Asn | Val | Tyr | Lys | Ala | Asn | Asn | Asn | Thr | Val | Thr | Pro | Val | Leu | Thr |  |  |  |  |
|     | 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |  |  |  |  |
| Pro | Asp | Lys | Thr | Arg | Val | Met | Trp | Arg | Lys | Val | Thr | Gln | Ala | His | Gly |  |  |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |  |  |
| Ile | Ser | Ile | Met | Val | Arg | Ala | Gln | Phe | Arg | Thr | Asn | Leu | Pro | Ala | Asp |  |  |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |  |  |
| Ala | Ile | Gly | His | Arg | Ile | Arg | Met | Met | Leu | Xaa | Pro | Ser | Arg | Met | Tyr |  |  |  |  |

115  
Thr Thr Glu Pro Ser  
130 133

120

125

&lt;210&gt; 3358

&lt;211&gt; 946

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(939)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3358

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Cys | Ser | Lys | Asp | Lys | Cys | Cys | Leu | Tyr | Leu | Pro | Asp | Ser | Ile | Asn |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Arg | Ser | Lys | Ser | Cys | Thr | Ala | Lys | Pro | Gly | Ala | His | Ser | Gln | Asp | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Ala | Val | Met | Asp | Ser | Glu | Arg | Gln | Val | Lys | Asp | Thr | Asp | Asp | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Glu | Ser | Pro | Lys | Arg | Ser | Ile | Arg | Asp | Ser | Gly | Tyr | Ile | Asp | Cys | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asp | Ser | Glu | Arg | Ser | Asp | Ser | Leu | Ser | Pro | Pro | Arg | His | Gly | Arg | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Ser | Phe | Asp | Ser | Leu | Asp | Ser | Phe | Gly | Ser | Arg | Ser | Arg | Gln | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Pro | Ser | Pro | Asp | Val | Val | Leu | Arg | Gly | Ser | Ser | Asp | Gly | Arg | Gly | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Ser | Glu | Ser | Asp | Leu | Pro | His | Arg | Lys | Leu | Pro | Asp | Val | Lys | Lys |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Asp | Met | Ser | Ala | Arg | Arg | Thr | Ser | His | Gly | Glu | Pro | Lys | Ser | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Pro | Phe | Asn | Gln | Tyr | Leu | Pro | Asn | Lys | Ser | Asn | Gln | Thr | Ala | Tyr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Pro | Ala | Pro | Leu | Arg | Lys | Lys | Lys | Ala | Glu | Arg | Glu | Glu | Tyr | Arg |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Lys | Ser | Trp | Ser | Thr | Ala | Thr | Ser | Pro | Ala | Gly | Leu | Gly | Lys | Lys | Ala |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Gln | Asp | Tyr | Gly | Pro | Arg | Thr | Pro | Val | Ser | Asp | Asp | Ala | Glu | Ser |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Thr | Ser | Met | Phe | Asp | Met | Arg | Cys | Glu | Glu | Glu | Ala | Ala | Val | Gln | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| His | Ser | Arg | Ala | Arg | Gln | Glu | Gln | Leu | Gln | Leu | Ile | Asn | Asn | Gln | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Glu | Glu | Asp | Asp | Lys | Trp | Gln | Asp | Asp | Leu | Ala | Arg | Trp | Lys | Ser |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Lys | Arg | Ser | Val | Ser | Gln | Asp | Leu | Ile | Lys | Lys | Glu | Glu | Glu | Arg |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Lys | Lys | Met | Glu | Lys | Leu | Leu | Ala | Gly | Glu | Asp | Gly | Thr | Ser | Glu | Arg |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Lys | Ser | Ile | Lys | Thr | Tyr | Arg | Glu | Ile | Val | Gln | Glu | Lys | Glu | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Arg | Glu | Arg | Glu | Leu | His | Glu | Ala | Tyr | Lys | Asn | Ala | Arg | Ser | Gln | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Ala | Glu | Gly | Ile | Leu | Gln | Gln | Tyr | Ile | Glu | Arg | Phe | Thr | Ile | Ser |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Glu | Ala | Val | Leu | Glu | Arg | Leu | Glu | Met | Pro | Lys | Ile | Leu | Glu | Arg | Ser |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| His | Ser | Thr | Glu | Pro | Asn | Leu | Ser | Ser | Phe | Leu | Asn | Asp | Pro | Asn | Pro |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Met | Lys | Tyr | Leu | Arg | Gln | Gln | Ser | Leu | Pro | Pro | Pro | Lys | Phe | Thr | Ala |

|   |     |     |
|---|-----|-----|
| 370   | 375 | 380 |
| Thr Val Glu Thr Thr Ile Ala Arg Ala Ser Val Leu Asp Thr Ser Met |     |     |
| 385   | 390 | 395 |
| Ser Ala Gly Ser Gly Ser Pro Ser Lys Thr Val Thr Pro Lys Ala Val |     | 400 |
|   | 405 | 410 |
| Pro Met Leu Thr Pro Lys Pro Tyr Ser Gln Pro Lys Asn Ser Gln Asp |     | 415 |
|   | 420 | 425 |
| Val Leu Lys Thr Phe Lys Val Asp Gly Lys Val Ser Val Asn Gly Glu |     | 430 |
|   | 435 | 440 |
| Thr Val His Arg Glu Glu Glu Lys Glu Arg Glu Cys Pro Thr Val Ala |     | 445 |
|   | 450 | 455 |
| Pro Ala His Ser Leu Thr Lys Ser Gln Met Phe Glu Gly Val Ala Arg |     | 460 |
| 465   | 470 | 475 |
| Val His Gly Ser Pro Leu Glu Leu Lys Gln Asp Asn Gly Ser Ile Glu |     | 480 |
|   | 485 | 490 |
| Ile Asn Ile Lys Lys Pro Asn Ser Val Pro Gln Glu Leu Ala Ala Thr |     | 495 |
|   | 500 | 505 |
| Thr Glu Lys Thr Glu Pro Asn Ser Gln Glu Asp Lys Asn Asp Gly Gly |     | 510 |
|   | 515 | 520 |
| Lys Ser Arg Lys Gly Asn Ile Glu Leu Ala Ser Ser Glu Pro Gln His |     | 525 |
|   | 530 | 535 |
| Phe Thr Thr Thr Val Thr Arg Cys Ser Pro Thr Val Ala Phe Val Glu |     | 540 |
| 545   | 550 | 555 |
| Phe Pro Ser Ser Pro Gln Leu Lys Asn Asp Val Ser Glu Glu Lys Asp |     | 560 |
|   | 565 | 570 |
| Gln Lys Lys Pro Glu Asn Glu Met Ser Gly Lys Val Glu Leu Val Leu |     | 575 |
|   | 580 | 585 |
| Ser Gln Lys Val Val Lys Pro Lys Ser Pro Glu Pro Glu Ala Thr Leu |     | 590 |
|   | 595 | 600 |
| Thr Phe Pro Phe Leu Asp Lys Met Pro Glu Ala Asn Gln Leu His Leu |     | 605 |
|   | 610 | 615 |
| Pro Asn Leu Asn Ser Gln Val Asp Ser Pro Ser Ser Glu Lys Ser Pro |     | 620 |
| 625   | 630 | 635 |
| Val Thr Thr Pro Phe Lys Phe Trp Ala Trp Asp Pro Glu Glu Glu Arg |     | 640 |
|   | 645 | 650 |
| Arg Arg Gln Glu Lys Trp Gln Gln Glu Gln Glu Arg Leu Leu Gln Glu |     | 655 |
|   | 660 | 665 |
| Arg Tyr Gln Lys Glu Gln Asp Lys Leu Lys Glu Glu Trp Glu Lys Ala |     | 670 |
|   | 675 | 680 |
| Gln Lys Glu Val Glu Glu Glu Glu Arg Arg Tyr Tyr Glu Glu Glu Pro |     | 685 |
|   | 690 | 695 |
| Xaa Ile Ile Glu Asp Pro Val Val Pro Phe Thr Val Ser Ser Ser Ser |     | 700 |
| 705   | 710 | 715 |
| Ala Asp Gln Leu Ser Thr Ser Ser Ser Met Thr Glu Gly Ser Gly Thr |     | 720 |
|   | 725 | 730 |
| Met Asn Lys Ile Asp Leu Gly Asn Cys Gln Asp Glu Lys Gln Asp Arg |     | 735 |
|   | 740 | 745 |
| Arg Trp Lys Lys Ser Phe Gln Gly Asp Asp Ser Asp Leu Leu Leu Lys |     | 750 |
|   | 755 | 760 |
| Thr Arg Glu Ser Asp Arg Leu Glu Glu Lys Gly Ser Leu Thr Glu Gly |     | 765 |
|   | 770 | 775 |
| Ala Leu Ala His Ser Gly Asn Pro Val Ser Lys Gly Val His Glu Asp |     | 780 |
| 785   | 790 | 795 |
| His Gln Leu Asp Thr Glu Ala Gly Ala Pro His Cys Gly Thr Asn Pro |     | 800 |
|   | 805 | 810 |
| Gln Leu Ala Gln Asp Pro Ser Gln Asn Gln Gln Thr Ser Asn Pro Thr |     | 815 |
|   | 820 | 825 |
| His Ser Ser Glu Asp Val Lys Pro Lys Thr Leu Pro Leu Asp Lys Ser |     | 830 |
|   | 835 | 840 |
| Ile Asn His Gln Ile Glu Ser Pro Ser Glu Arg Arg Lys Ser Ile Ser |     | 845 |
|   | 850 | 855 |
| Gly Lys Lys Leu Cys Ser Ser Cys Gly Leu Pro Leu Gly Lys Gly Ala |     | 860 |
| 865   | 870 | 875 |
| Ala Met Ile Ile Glu Thr Leu Asn Leu Tyr Phe His Ile Gln Cys Phe |     | 880 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     | 895 |     |     |  |  |
| Arg | Cys | Gly | Ile | Cys | Lys | Gly | Gln | Leu | Gly | Asp | Ala | Val | Ser | Gly | Thr |  |  |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |  |
| Asp | Val | Arg | Ile | Arg | Asn | Gly | Leu | Leu | Asn | Cys | Asn | Asp | Cys | Tyr | Met |  |  |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |  |  |
| Arg | Ser | Arg | Ser | Ala | Gly | Gln | Pro | Thr | Thr | Leu |     |     |     |     |     |  |  |
|     | 930 |     |     |     |     | 935 |     |     |     | 939 |     |     |     |     |     |  |  |

&lt;210&gt; 3359

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(122)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3359

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Glu | Val | Thr | Ala | Ser | Arg | Glu | Gly | Arg | Gly | Ala | Cys | Ala | Trp | Glu | Cys |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Ser | Ser | Arg | Gly | Pro | Trp | Gly | Leu | Leu | Arg | Gly | Thr | Phe | Ala | Pro |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Val | Arg | Ala | Ala | Thr | Pro | Xaa | Ser | Xaa | Leu | Pro | Lys | Gly | Ser | Leu | Arg |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| His | Arg | Pro | Xaa | Cys | Pro | Pro | Pro | Val | His | Leu | Pro | Pro | Lys | Ser | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Cys | Pro | Pro | Arg | Ala | Trp | Ala | Gly | Arg | Ala | Thr | Ser | Met | Xaa | Thr | Ser |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Ser | Tyr | Ser | Ser | Glu | Tyr | Gln | Pro | Gln | Thr | Pro | Xaa | Ala | Leu | Val | Thr |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Leu | Pro | Pro | Arg | Ser | Tyr | Tyr | Leu | Leu | Thr | His | Leu | Leu | Thr | Leu | Thr |  |  |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| His | Leu | His | His | Gln | Ile | Leu | Phe | Glu | Pro |     |     |     |     |     |     |  |  |
|     |     | 115 |     |     |     |     | 120 |     | 122 |     |     |     |     |     |     |  |  |

&lt;210&gt; 3360

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(129)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3360

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Arg | Gly | Ile | Gly | Ser | Leu | Gly | Arg | Asp | His | Ser | Gly | Ser | Gly | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Gly | Thr | Gly | Met | Ala | Gly | Ala | Trp | Val | Arg | Lys | Ala | Ala | Asp | Tyr | Val |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Arg | Ser | Lys | Asp | Phe | Arg | Asp | Tyr | Leu | Met | Ser | Thr | His | Phe | Trp | Gly |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Val | Ala | Asn | Trp | Gly | Leu | Pro | Ile | Ala | Ala | Ile | Thr | Asp | Met | Lys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Lys | Ser | Pro | Glu | Ile | Ile | Ser | Arg | Arg | Met | Thr | Phe | Ala | Leu | Xaa | Cys |  |  |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Tyr | Ser | Leu | Thr | Phe | Val | Arg | Phe | Ala | His | Tyr | Val | Gln | Pro | Trp | Asn |  |  |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |     |  |  |
| Trp | Leu | Met | Leu | Gly | Cys | His | Thr | Ala | Val | Asp | Phe | Asp | Gln | Leu | Ile |  |  |

|     |   |  |     |  |     |
|-----|---|--|-----|--|-----|
|     | 100   |  | 105 |  | 110 |
| Ser | Ser Met Pro Cys Ile Ser His Gly Met Thr Ala Ser Ala Ser Ala |  |     |  |     |
|     | 115   |  | 120 |  | 125 |
| Leu |   |  |     |  |     |
| 129 |   |  |     |  |     |

&lt;210&gt; 3361

&lt;211&gt; 1371

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1357)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3361

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Leu | Gly | Arg | Ala | Asn | Ser | Pro | Pro | Tyr | Asn | Ser | Val | Val | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Leu | Pro | Pro | Ala | Thr | Leu | Leu | Leu | Arg | Arg | Ala | Gly | Trp | Glu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Trp | Ser | Cys | Gln | Ser | Arg | Ser | Pro | Trp | Pro | Pro | Arg | Pro | Glu | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ala | Pro | Ala | Lys | Gly | Pro | Arg | Gly | Val | Ala | Gly | Ala | Ala | Gly | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Cys | Ser | Ala | Gly | Ala | Arg | Leu | Gly | Asp | Ala | Ala | Gly | Gly | Asp | Pro | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Gly | Gln | Ala | Ala | Arg | Gly | Cys | Gly | Ala | Arg | Ala | Pro | Arg | Gly | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Arg | Thr | Ala | Arg | Ala | Arg | Asp | Thr | Ala | Met | Glu | Asp | Ala | Gly | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Gly | Pro | Gly | Pro | Glu | Pro | Glu | Pro | Glu | Pro | Glu | Pro | Glu | Pro | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Pro | Ala | Pro | Glu | Pro | Glu | Pro | Glu | Pro | Lys | Pro | Gly | Ala | Gly | Thr | Ser |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Glu | Ala | Phe | Ser | Arg | Leu | Trp | Thr | Asp | Val | Met | Gly | Ile | Leu | Asp | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Leu | Gly | Asn | Ile | Asp | Asp | Leu | Ala | Gln | Gln | Tyr | Ala | Asp | Tyr | Tyr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Thr | Cys | Phe | Ser | Asp | Val | Cys | Glu | Arg | Met | Glu | Glu | Leu | Arg | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Arg | Val | Ser | Gln | Asp | Leu | Glu | Val | Glu | Lys | Pro | Asp | Ala | Ser | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Thr | Ser | Leu | Gln | Leu | Arg | Ser | Gln | Ile | Glu | Glu | Ser | Leu | Gly | Phe | Cys |
|     |     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |
| Ser | Ala | Val | Ser | Thr | Pro | Glu | Val | Glu | Arg | Lys | Asn | Pro | Leu | His | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Asn | Ser | Glu | Asp | Ser | Ser | Val | Gly | Lys | Gly | Asp | Trp | Lys | Lys | Lys |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asn | Lys | Tyr | Phe | Trp | Gln | Asn | Phe | Arg | Lys | Asn | Gln | Lys | Gly | Ile | Met |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Gln | Thr | Ser | Lys | Gly | Glu | Asp | Val | Gly | Tyr | Val | Ala | Ser | Glu | Ile |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Met | Ser | Asp | Glu | Glu | Arg | Ile | Gln | Leu | Met | Met | Met | Val | Lys | Glu |
|     |     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |
| Lys | Met | Ile | Thr | Ile | Glu | Glu | Ala | Leu | Ala | Arg | Leu | Lys | Glu | Tyr | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ala | Gln | His | Arg | Gln | Ser | Ala | Ala | Leu | Asp | Pro | Ala | Asp | Trp | Pro | Asp |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Ser | Tyr | Pro | Thr | Phe | Asp | Gly | Ser | Ser | Asn | Cys | Asn | Ser | Arg | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gln | Ser | Asp | Asp | Glu | Thr | Glu | Glu | Ser | Val | Lys | Phe | Lys | Arg | Leu | His |

5031

|   |      |     |      |      |      |     |
|---|------|-----|------|------|------|-----|
| 865   |      | 870 |      | 875  |      | 880 |
| Gly Asp Ala Leu Lys Gln Gly Gln Glu Glu Gly Arg Leu Gly Gly Gly |      |     |      |      |      |     |
|   | 885  |     | 890  |      | 895  |     |
| Leu Ala Pro Asp Thr Ser Lys Ser Cys Asp Pro Pro Gly Cys Xaa Leu |      |     |      |      |      |     |
|   | 900  |     | 905  |      | 910  |     |
| Val Leu Asn Lys Asn Arg Arg Lys Pro Pro Ser Phe Pro Ser Cys Arg |      |     |      |      |      |     |
|   | 915  |     | 920  |      | 925  |     |
| Ser Cys Glu Thr Leu Glu Gly Pro Gln Thr Val Asp Thr Trp Pro Arg |      |     |      |      |      |     |
|   | 930  |     | 935  |      | 940  |     |
| Ser His Ser Leu Asp Asp Leu Gln Val Glu Pro Gly Ala Glu Gln Asp |      |     |      |      |      |     |
|   | 945  |     | 950  |      | 955  |     |
| Val Pro Thr Glu Val Thr Glu Pro Pro Pro Gln Ile Val Pro Glu Val |      |     |      |      |      |     |
|   | 965  |     | 970  |      | 975  |     |
| Pro Gln Lys Thr Thr Ala Ser Ser Thr Lys Ala Gln Pro Leu Glu Gln |      |     |      |      |      |     |
|   | 980  |     | 985  |      | 990  |     |
| Asp Ser Ala Val Asp Asn Ala Leu Leu Leu Thr Gln Ser Lys Arg Phe |      |     |      |      |      |     |
|   | 995  |     | 1000 |      | 1005 |     |
| Ser Glu Pro Gln Lys Leu Thr Thr Lys Lys Leu Glu Gly Ser Ile Ala |      |     |      |      |      |     |
|   | 1010 |     | 1015 |      | 1020 |     |
| Ala Ser Gly Arg Gly Leu Ser Pro Pro Gln Cys Leu Pro Arg Asn Tyr |      |     |      |      |      |     |
|   | 1025 |     | 1030 |      | 1035 |     |
| Asp Ala Gln Pro Pro Gly Ala Lys His Gly Leu Ala Arg Thr Pro Leu |      |     |      |      |      |     |
|   | 1045 |     | 1050 |      | 1055 |     |
| Glu Gly His Arg Lys Gly His Glu Phe Glu Gly Thr His His Pro Leu |      |     |      |      |      |     |
|   | 1060 |     | 1065 |      | 1070 |     |
| Gly Thr Lys Glu Gly Val Asp Ala Glu Gln Arg Met Gln Pro Lys Ile |      |     |      |      |      |     |
|   | 1075 |     | 1080 |      | 1085 |     |
| Pro Ser Gln Pro Pro Pro Val Pro Ala Lys Lys Ser Arg Glu Arg Leu |      |     |      |      |      |     |
|   | 1090 |     | 1095 |      | 1100 |     |
| Ala Asn Gly Leu His Pro Val Pro Met Gly Pro Ser Gly Ala Leu Pro |      |     |      |      |      |     |
|   | 1105 |     | 1110 |      | 1115 |     |
| Ser Pro Asp Ala Pro Cys Leu Pro Val Lys Arg Gly Ser Pro Ala Ser |      |     |      |      |      |     |
|   | 1125 |     | 1130 |      | 1135 |     |
| Pro Thr Ser Pro Ser Asp Cys Pro Pro Ala Leu Ala Pro Arg Pro Leu |      |     |      |      |      |     |
|   | 1140 |     | 1145 |      | 1150 |     |
| Ser Gly Gln Ala Leu Gly Ser Pro Pro Ser Thr Arg Pro Pro Pro Trp |      |     |      |      |      |     |
|   | 1155 |     | 1160 |      | 1165 |     |
| Leu Ser Glu Leu Pro Glu Asn Thr Ser Leu Gln Glu His Gly Val Lys |      |     |      |      |      |     |
|   | 1170 |     | 1175 |      | 1180 |     |
| Leu Gly Pro Ala Leu Thr Arg Lys Val Ser Cys Ala Arg Gly Val Asp |      |     |      |      |      |     |
|   | 1185 |     | 1190 |      | 1195 |     |
| Leu Glu Thr Leu Thr Glu Asn Lys Leu His Ala Glu Gly Ile Arg Ser |      |     |      |      |      |     |
|   | 1205 |     | 1210 |      | 1215 |     |
| Ser Arg Arg Glu Pro Tyr Ser Xaa Leu Arg His Gly Arg Cys Gly Ile |      |     |      |      |      |     |
|   | 1220 |     | 1225 |      | 1230 |     |
| Pro Glu Ala Leu Val Gln Arg Tyr Ala Glu Asp Leu Asp Gln Pro Glu |      |     |      |      |      |     |
|   | 1235 |     | 1240 |      | 1245 |     |
| Arg Asp Val Ala Ala Asn Met Asp Gln Ile Arg Val Lys Gln Leu Arg |      |     |      |      |      |     |
|   | 1250 |     | 1255 |      | 1260 |     |
| Lys Gln His Arg Met Ala Ile Pro Ser Gly Gly Leu Thr Glu Ile Cys |      |     |      |      |      |     |
|   | 1265 |     | 1270 |      | 1275 |     |
| Arg Lys Pro Val Ser Pro Gly Cys Ile Ser Ser Val Ser Asp Trp Leu |      |     |      |      |      |     |
|   | 1285 |     | 1290 |      | 1295 |     |
| Ile Ser Ile Gly Leu Pro Met Tyr Ala Gly Thr Leu Ser Thr Ala Gly |      |     |      |      |      |     |
|   | 1300 |     | 1305 |      | 1310 |     |
| Phe Ser Thr Leu Ser Gln Val Pro Ser Leu Ser His Thr Cys Leu Gln |      |     |      |      |      |     |
|   | 1315 |     | 1320 |      | 1325 |     |
| Glu Ala Gly Ile Thr Glu Glu Arg His Ile Arg Lys Leu Leu Ser Ala |      |     |      |      |      |     |
|   | 1330 |     | 1335 |      | 1340 |     |
| Ala Arg Leu Phe Lys Leu Pro Pro Gly Pro Glu Ala Met             |      |     |      |      |      |     |
|   | 1345 |     | 1350 |      | 1355 |     |
|   |      |     |      | 1357 |      |     |

<210> 3362  
 <211> 1553  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(1550)  
 <223> Xaa = any amino acid or nothing

<400> 3362  
 Phe Arg Gly Gly Val Gly Tyr Ala His Thr Leu His Leu Leu Pro Phe  
 1 5 10 15  
 Ala Gly Ser Ser Val Val Leu Ala Arg Ala Arg Arg Thr Asp Arg Trp  
 20 25 30  
 Thr Ser Gly Leu Val Glu Met Ala Thr Leu Ser Leu Thr Val Asn Ser  
 35 40 45  
 Gly Asp Pro Pro Leu Gly Ala Leu Leu Ala Val Glu His Val Lys Asp  
 50 55 60  
 Asp Val Ser Ile Ser Val Glu Glu Gly Lys Glu Asn Ile Leu His Val  
 65 70 75 80  
 Ser Glu Asn Val Ile Phe Thr Asp Val Asn Ser Ile Leu Arg Tyr Leu  
 85 90 95  
 Ala Arg Val Ala Thr Thr Ala Gly Leu Tyr Gly Ser Asn Leu Met Glu  
 100 105 110  
 His Thr Glu Ile Asp His Trp Leu Glu Phe Ser Ala Thr Lys Leu Ser  
 115 120 125  
 Ser Cys Asp Ser Phe Thr Ser Thr Ile Asn Glu Leu Asn His Cys Leu  
 130 135 140  
 Ser Leu Arg Thr Tyr Leu Val Gly Asn Ser Leu Ser Leu Ala Asp Leu  
 145 150 155 160  
 Cys Val Trp Ala Thr Leu Lys Gly Asn Ala Ala Trp Gln Glu Gln Leu  
 165 170 175  
 Lys Gln Lys Lys Ala Pro Val His Val Lys Arg Trp Phe Gly Phe Leu  
 180 185 190  
 Glu Ala Gln Gln Ala Phe Gln Ser Val Gly Thr Lys Trp Asp Val Ser  
 195 200 205  
 Thr Thr Lys Ala Arg Val Ala Pro Glu Lys Lys Gln Asp Val Gly Lys  
 210 215 220  
 Phe Val Glu Leu Pro Gly Ala Glu Met Gly Lys Val Thr Val Arg Phe  
 225 230 235 240  
 Pro Pro Glu Ala Ser Gly Tyr Leu His Ile Gly His Ala Lys Ala Ala  
 245 250 255  
 Leu Leu Asn Gln His Tyr Gln Val Asn Phe Lys Gly Lys Leu Ile Met  
 260 265 270  
 Arg Phe Asp Asp Thr Asn Pro Glu Lys Glu Lys Glu Asp Phe Glu Lys  
 275 280 285  
 Val Ile Leu Glu Asp Val Ala Met Leu His Ile Lys Pro Asp Gln Phe  
 290 295 300  
 Thr Tyr Thr Ser Asp His Phe Glu Thr Ile Met Lys Tyr Ala Glu Lys  
 305 310 315 320  
 Leu Ile Gln Glu Gly Lys Ala Tyr Val Asp Asp Thr Pro Gly Glu Gln  
 325 330 335  
 Ile Lys Ala Glu Arg Glu Gln Arg Ile Glu Ser Lys His Arg Lys Asn  
 340 345 350  
 Pro Ile Glu Lys Asn Leu Gln Met Trp Glu Glu Met Lys Lys Gly Ser  
 355 360 365  
 Gln Phe Gly His Ser Cys Cys Leu Arg Ala Lys Ile Asp Met Ser Ser  
 370 375 380  
 Asn Asn Gly Cys Met Arg Asp Pro Thr Leu Tyr Arg Cys Lys Ile Gln  
 385 390 395 400  
 Pro His Pro Arg Thr Gly Asn Xaa Tyr Asn Val Tyr Pro Thr Tyr Asp  
 405 410 415  
 Phe Ala Cys Pro Ile Val Asp Ser Ile Glu Gly Val Thr His Ala Leu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Arg | Thr | Thr | Glu | Tyr | His | Asp | Arg | Asp | Glu | Gln | Phe | Tyr | Trp | Ile | Ile |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Glu | Ala | Leu | Gly | Ile | Arg | Lys | Pro | Tyr | Ile | Trp | Glu | Tyr | Ser | Arg | Leu |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Asn | Leu | Asn | Asn | Thr | Val | Leu | Ser | Lys | Arg | Lys | Leu | Thr | Trp | Phe | Val |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Asn | Glu | Gly | Leu | Val | Asp | Gly | Trp | Asp | Asp | Pro | Arg | Phe | Pro | Thr | Val |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |
| Arg | Gly | Val | Leu | Arg | Arg | Gly | Met | Thr | Val | Glu | Gly | Leu | Lys | Gln | Phe |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Ile | Ala | Ala | Gln | Gly | Ser | Ser | Arg | Ser | Val | Val | Asn | Met | Glu | Trp | Asp |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Lys | Ile | Trp | Ala | Phe | Asn | Lys | Lys | Val | Ile | Asp | Pro | Val | Ala | Pro | Arg |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Tyr | Val | Ala | Leu | Leu | Lys | Lys | Glu | Val | Ile | Pro | Val | Asn | Val | Pro | Glu |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Ala | Gln | Glu | Glu | Met | Lys | Glu | Val | Ala | Lys | His | Pro | Lys | Asn | Pro | Glu |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |  |
| Val | Gly | Leu | Lys | Pro | Val | Trp | Tyr | Ser | Pro | Lys | Val | Phe | Ile | Glu | Gly |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Ala | Asp | Ala | Glu | Thr | Phe | Ser | Glu | Gly | Glu | Met | Val | Thr | Phe | Ile | Asn |  |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |
| Trp | Gly | Asn | Leu | Asn | Ile | Thr | Lys | Ile | His | Lys | Asn | Ala | Asp | Gly | Lys |  |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |
| Ile | Ile | Ser | Leu | Asp | Ala | Lys | Leu | Asn | Leu | Glu | Asn | Lys | Asp | Tyr | Lys |  |
| 625 |     |     |     | 630 |     |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Lys | Thr | Thr | Lys | Val | Thr | Trp | Leu | Ala | Glu | Thr | Thr | His | Ala | Leu | Pro |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |  |
| Ile | Pro | Val | Ile | Cys | Val | Thr | Tyr | Glu | His | Leu | Ile | Thr | Lys | Pro | Val |  |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Leu | Gly | Lys | Asp | Glu | Asp | Phe | Lys | Gln | Tyr | Val | Asn | Lys | Asn | Ser | Lys |  |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |
| His | Glu | Glu | Leu | Met | Leu | Gly | Asp | Pro | Cys | Leu | Lys | Asp | Leu | Lys | Lys |  |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |
| Gly | Asp | Ile | Ile | Gln | Leu | Gln | Arg | Arg | Gly | Phe | Phe | Ile | Cys | Asp | Gln |  |
| 705 |     |     |     | 710 |     |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Pro | Tyr | Glu | Pro | Val | Ser | Pro | Tyr | Ser | Cys | Lys | Glu | Ala | Pro | Cys | Val |  |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |  |
| Leu | Ile | Tyr | Ile | Pro | Asp | Gly | His | Thr | Lys | Glu | Met | Pro | Thr | Ser | Gly |  |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Ser | Lys | Glu | Lys | Thr | Lys | Val | Glu | Ala | Thr | Lys | Asn | Glu | Thr | Ser | Ala |  |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |
| Pro | Phe | Lys | Glu | Arg | Pro | Thr | Pro | Ser | Leu | Asn | Asn | Asn | Cys | Thr | Thr |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |
| Ser | Glu | Asp | Ser | Leu | Val | Leu | Tyr | Asn | Arg | Val | Ala | Val | Gln | Gly | Asp |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Val | Val | Arg | Glu | Leu | Lys | Ala | Lys | Lys | Ala | Pro | Lys | Glu | Asp | Val | Asp |  |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |  |
| Ala | Ala | Val | Lys | Gln | Leu | Leu | Ser | Leu | Lys | Ala | Glu | Tyr | Lys | Glu | Lys |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Thr | Gly | Gln | Glu | Tyr | Lys | Pro | Gly | Asn | Pro | Pro | Ala | Glu | Ile | Gly | Gln |  |
|     |     | 835 |     |     |     |     | 840 |     |     |     |     |     | 845 |     |     |  |
| Asn | Ile | Ser | Ser | Asn | Ser | Ser | Ala | Ser | Ile | Leu | Glu | Ser | Lys | Ser | Leu |  |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |  |
| Tyr | Asp | Glu | Val | Ala | Ala | Gln | Gly | Glu | Val | Val | Arg | Lys | Leu | Lys | Ala |  |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |  |
| Glu | Lys | Ser | Pro | Lys | Ala | Lys | Ile | Asn | Glu | Ala | Val | Glu | Cys | Leu | Leu |  |
|     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |  |
| Ser | Leu | Lys | Ala | Gln | Tyr | Lys | Glu | Lys | Thr | Gly | Lys | Glu | Tyr | Ile | Pro |  |
|     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |  |
| Gly | Gln | Pro | Pro | Leu | Ser | Gln | Ser | Ser | Asp | Ser | Ser | Pro | Thr | Arg | Asn |  |
|     |     | 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |  |
| Ser | Glu | Pro | Ala | Gly | Leu | Glu | Thr | Pro | Glu | Ala | Lys | Val | Leu | Phe | Asp |  |



|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 930                     | 935                 | 940                 |
| Lys Val Ala Ser Gln Gly | Glu Val Val Arg Lys | Leu Lys Thr Glu Lys |
| 945                     | 950                 | 955                 |
| Ala Pro Lys Asp Gln Val | Asp Ile Ala Val Gln | Glu Leu Leu Gln Leu |
| 965                     | 970                 | 975                 |
| Lys Ala Gln Tyr Lys Ser | Leu Ile Gly Val Glu | Tyr Lys Pro Val Ser |
| 980                     | 985                 | 990                 |
| Ala Thr Gly Ala Glu Asp | Lys Asp Lys Lys Lys | Lys Glu Lys Glu Asn |
| 995                     | 1000                | 1005                |
| Lys Ser Glu Lys Gln Asn | Lys Pro Gln Lys Gln | Asn Asp Gly Gln Arg |
| 1010                    | 1015                | 1020                |
| Lys Asp Pro Ser Lys Asn | Gln Gly Gly Gly Leu | Ser Ser Ser Gly Ala |
| 1025                    | 1030                | 1035                |
| Gly Glu Gly Gln Gly Pro | Lys Lys Gln Thr Arg | Leu Gly Leu Glu Ala |
| 1045                    | 1050                | 1055                |
| Lys Lys Glu Glu Asn Leu | Ala Asp Trp Tyr Ser | Gln Val Ile Thr Lys |
| 1060                    | 1065                | 1070                |
| Ser Glu Met Ile Glu Tyr | His Asp Ile Ser Gly | Cys Tyr Ile Leu Arg |
| 1075                    | 1080                | 1085                |
| Pro Trp Ala Tyr Ala Ile | Trp Glu Ala Ile Lys | Asp Phe Phe Asp Ala |
| 1090                    | 1095                | 1100                |
| Glu Ile Lys Lys Leu Gly | Val Glu Asn Cys Tyr | Phe Pro Met Phe Val |
| 1105                    | 1110                | 1115                |
| Ser Gln Ser Ala Leu Glu | Lys Glu Lys Thr His | Val Ala Asp Phe Ala |
| 1125                    | 1130                | 1135                |
| Pro Glu Val Ala Trp Val | Thr Arg Ser Gly Lys | Thr Glu Leu Ala Glu |
| 1140                    | 1145                | 1150                |
| Pro Ile Ala Ile Arg Pro | Thr Ser Glu Thr Val | Met Tyr Pro Ala Tyr |
| 1155                    | 1160                | 1165                |
| Ala Lys Trp Val Gln Ser | His Arg Asp Leu Pro | Ile Lys Leu Asn Gln |
| 1170                    | 1175                | 1180                |
| Trp Cys Asn Val Val Arg | Trp Glu Phe Lys His | Pro Gln Pro Phe Leu |
| 1185                    | 1190                | 1195                |
| Arg Thr Arg Glu Phe Leu | Trp Gln Glu Gly His | Ser Ala Phe Ala Thr |
| 1205                    | 1210                | 1215                |
| Met Glu Glu Ala Ala Glu | Glu Val Leu Gln Ile | Leu Asp Leu Tyr Ala |
| 1220                    | 1225                | 1230                |
| Gln Val Tyr Glu Glu Leu | Leu Ala Ile Pro Val | Val Lys Gly Arg Lys |
| 1235                    | 1240                | 1245                |
| Thr Glu Lys Glu Lys Phe | Ala Gly Gly Asp Tyr | Thr Thr Thr Ile Glu |
| 1250                    | 1255                | 1260                |
| Ala Phe Ile Ser Ala Ser | Gly Arg Ala Ile Gln | Gly Gly Thr Ser His |
| 1265                    | 1270                | 1275                |
| His Leu Gly Gln Asn Phe | Ser Lys Met Phe Glu | Ile Val Phe Glu Asp |
| 1285                    | 1290                | 1295                |
| Pro Lys Ile Pro Gly Glu | Lys Gln Phe Ala Tyr | Gln Asn Ser Trp Gly |
| 1300                    | 1305                | 1310                |
| Leu Thr Thr Arg Thr Ile | Gly Val Met Thr Met | Val His Gly Asp Asn |
| 1315                    | 1320                | 1325                |
| Met Gly Leu Val Leu Pro | Pro Arg Val Ala Cys | Val Gln Val Val Ile |
| 1330                    | 1335                | 1340                |
| Ile Pro Cys Gly Ile Thr | Asn Ala Leu Ser Glu | Glu Asp Lys Glu Ala |
| 1345                    | 1350                | 1355                |
| Leu Ile Ala Lys Cys Asn | Asp Tyr Arg Arg Arg | Leu Leu Ser Val Asn |
| 1365                    | 1370                | 1375                |
| Ile Arg Val Arg Ala Asp | Leu Arg Asp Asn Tyr | Ser Pro Gly Trp Lys |
| 1380                    | 1385                | 1390                |
| Phe Asn His Trp Glu Leu | Lys Gly Val Pro Ile | Arg Leu Glu Val Gly |
| 1395                    | 1400                | 1405                |
| Pro Arg Asp Met Lys Ser | Cys Gln Phe Val Ala | Val Arg Arg Asp Thr |
| 1410                    | 1415                | 1420                |
| Gly Glu Lys Leu Thr Val | Ala Glu Asn Glu Ala | Glu Thr Lys Leu Gln |
| 1425                    | 1430                | 1435                |
| Ala Ile Leu Glu Asp Ile | Gln Val Thr Leu Phe | Thr Arg Ala Ser Glu |

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      1445      1450      1455
Asp Leu Lys Thr His Met Val Val Ala Asn Thr Met Glu Asp Phe Gln
      1460      1465      1470
Lys Ile Leu Asp Ser Gly Lys Ile Val Gln Ile Pro Phe Cys Gly Glu
      1475      1480      1485
Ile Asp Cys Glu Asp Trp Ile Lys Lys Thr Thr Ala Arg Asp Gln Asp
      1490      1495      1500
Leu Glu Pro Gly Ala Pro Ser Met Gly Ala Lys Ser Leu Cys Ile Pro
1505      1510      1515      1520
Phe Lys Pro Leu Cys Glu Leu Gln Pro Gly Ala Lys Cys Val Cys Gly
      1525      1530      1535
Lys Asn Pro Ala Lys Tyr Tyr Thr Leu Phe Gly Arg Ser Tyr
      1540      1545      1550

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&lt;210&gt; 3363

&lt;211&gt; 767

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(760)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3363

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Leu Gly Gly Ala Ala Pro Glu Thr Met Pro Phe Pro Val Thr Thr Gln
 1          5          10          15
Gly Ser Gln Gln Thr Gln Pro Pro Gln Lys His Tyr Gly Ile Thr Ser
      20      25      30
Pro Ile Ser Leu Ala Ala Pro Lys Glu Thr Asp Cys Val Leu Thr Gln
      35      40      45
Lys Leu Ile Glu Thr Leu Lys Pro Phe Gly Gly Phe Leu Lys Lys Glu
      50      55      60
Glu Gly Thr Ala Ser Arg Arg Asn Phe Asn Phe Gly Lys Asn Xaa Ile
      65      70      75      80
Asn Leu Val Lys Glu Trp Ile Arg Arg Asn Gln Xaa Lys Ala Lys Asn
      85      90      95
Leu Pro Gln Ser Val Ile Glu Asn Val Gly Gly Lys Ile Phe Thr Phe
      100      105      110
Leu Gly Ser Tyr Arg Leu Gly Glu Val His Thr Lys Gly Ala Asp Ile
      115      120      125
Asp Gly Val Cys Val Phe Ala Pro Arg His Val Asp Arg Ser Asp Phe
      130      135      140
Phe Thr Ser Phe Tyr Asp Lys Leu Lys Leu Gln Glu Glu Val Lys Asp
145      150      155      160
Leu Arg Ala Val Glu Glu Ala Phe Val Pro Val Ile Lys Leu Cys Phe
      165      170      175
Asp Gly Ile Glu Ile Asp Ile Leu Phe Ala Arg Leu Ala Leu Gln Thr
      180      185      190
Ile Pro Glu Asp Leu Asp Leu Arg Asp Asp Ser Leu Leu Lys Asn Leu
      195      200      205
Asp Ile Arg Cys Ile Arg Ser Leu Asn Gly Cys Arg Val Thr Asp Glu
      210      215      220
Ile Leu His Leu Val Pro Asn Ile Asp Asn Phe Arg Leu Thr Leu Arg
225      230      235      240
Ala Ile Lys Leu Trp Ala Lys Arg His Asn Ile Tyr Ser Asn Ile Leu
      245      250      255
Gly Phe Leu Gly Gly Val Ser Trp Ala Met Leu Val Ala Arg Thr Cys
      260      265      270
Gln Leu Tyr Pro Asn Ala Ile Ala Ser Thr Leu Val His Lys Phe Phe
      275      280      285
Leu Val Phe Ser Lys Trp Glu Trp Pro Asn Pro Val Leu Leu Lys Gln

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|   |   |     |
|---|---|-----|
| 290   | 295                                     | 300 |
| Pro Glu Glu Cys Asn Leu   | Asn Leu Pro Val Trp Asp Pro Arg Val Asn |     |
| 305   | 310                                     | 315 |
| Pro Ser Asp Arg Tyr His Leu Met Pro Ile Ile Thr Pro Ala Tyr Pro |   | 320 |
|   | 325                                     | 330 |
| Gln Gln Asn Ser Thr Tyr Asn Val Ser Val Ser Thr Arg Met Val Met |   | 335 |
|   | 340                                     | 345 |
| Val Glu Glu Phe Lys Gln Gly Leu Ala Ile Thr Asp Glu Ile Leu Leu |   | 350 |
|   | 355                                     | 360 |
| Ser Lys Ala Glu Trp Ser Lys Leu Phe Glu Ala Pro Asn Phe Phe Gln |   | 365 |
|   | 370                                     | 375 |
| Lys Tyr Lys His Tyr Ile Val Leu Leu Ala Ser Ala Pro Thr Glu Asn |   | 380 |
| 385   | 390                                     | 395 |
| Gln Arg Leu Glu Trp Val Gly Leu Val Glu Ser Lys Ile Arg Ile Leu |   | 400 |
|   | 405                                     | 410 |
| Val Gly Ser Leu Glu Lys Asn Glu Phe Ile Thr Leu Ala His Val Asn |   | 415 |
|   | 420                                     | 425 |
| Pro Gln Ser Phe Pro Ala Pro Lys Glu Asn Pro Asp Lys Glu Glu Phe |   | 430 |
|   | 435                                     | 440 |
| Arg Thr Met Trp Val Ile Gly Leu Val Phe Lys Lys Thr Glu Asn Ser |   | 445 |
|   | 450                                     | 455 |
| Glu Asn Leu Ser Val Asp Leu Thr Tyr Asp Ile Gln Ser Phe Thr Asp |   | 460 |
| 465   | 470                                     | 475 |
| Thr Val Tyr Arg Gln Ala Ile Asn Ser Lys Met Phe Glu Val Asp Met |   | 480 |
|   | 485                                     | 490 |
| Lys Ile Ala Ala Met His Val Lys Arg Lys Gln Leu His Gln Leu Leu |   | 495 |
|   | 500                                     | 505 |
| Pro Asn His Val Leu Gln Lys Lys Lys Lys His Ser Thr Glu Gly Val |   | 510 |
|   | 515                                     | 520 |
| Lys Leu Thr Ala Leu Asn Asp Ser Ser Leu Asp Leu Ser Met Asp Ser |   | 525 |
|   | 530                                     | 535 |
| Asp Asn Ser Met Ser Val Pro Ser Pro Thr Ser Ala Thr Lys Thr Ser |   | 540 |
| 545   | 550                                     | 555 |
| Pro Leu Asn Ser Ser Gly Ser Ser Gln Gly Arg Asn Ser Pro Ala Pro |   | 560 |
|   | 565                                     | 570 |
| Ala Val Thr Ala Ala Ser Val Thr Asn Ile Gln Ala Thr Glu Val Ser |   | 575 |
|   | 580                                     | 585 |
| Val Pro Gln Val Asn Ser Ser Glu Ser Ser Gly Gly Thr Ser Ser Glu |   | 590 |
|   | 595                                     | 600 |
| Ser Ile Pro Gln Thr Ala Thr Gln Pro Ala Ile Ser Pro Pro Pro Lys |   | 605 |
|   | 610                                     | 615 |
| Pro Thr Val Ser Arg Val Val Ser Ser Thr Arg Leu Val Asn Pro Pro |   | 620 |
| 625   | 630                                     | 635 |
| Pro Arg Ser Ser Gly Asn Ala Ala Thr Ser Gly Asn Ala Ala Thr Lys |   | 640 |
|   | 645                                     | 650 |
| Ile Pro Thr Pro Ile Val Gly Val Lys Arg Thr Ser Ser Pro His Lys |   | 655 |
|   | 660                                     | 665 |
| Glu Glu Ser Pro Lys Lys Thr Lys Thr Glu Glu Asp Glu Thr Ser Glu |   | 670 |
|   | 675                                     | 680 |
| Asp Ala Asn Cys Leu Ala Leu Ser Gly His Asp Lys Thr Glu Ala Lys |   | 685 |
|   | 690                                     | 695 |
| Glu Gln Leu Asp Thr Glu Thr Ser Thr Thr Gln Ser Glu Thr Ile Gln |   | 700 |
| 705   | 710                                     | 715 |
| Thr Ala Ala Ser Leu Leu Ala Ser Gln Lys Thr Ser Ser Thr Asp Leu |   | 720 |
|   | 725                                     | 730 |
| Ser Asp Ile Pro Ala Leu Pro Ala Asn Pro Ile Pro Val Ile Lys Asn |   | 735 |
|   | 740                                     | 745 |
| Ser Ile Lys Leu Arg Leu Asn Arg                                 |   | 750 |
|   | 755                                     | 760 |

&lt;210&gt; 3364

&lt;211&gt; 1014

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (1007)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3364

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Ser Ala Arg Thr Met Ser Tyr Asp Tyr His Gln Asn Trp Gly Arg Asp
 1          5          10          15
Gly Gly Pro Arg Ser Ser Gly Gly Gly Tyr Gly Gly Gly Pro Ala Gly
          20          25          30
Gly His Gly Gly Asn Arg Gly Ser Gly Gly Gly Gly Gly Gly Gly Gly
          35          40          45
Gly Gly Arg Gly Trp Gln Gly Pro Ala Ser Arg Ala Pro Glu Arg Pro
          50          55          60
Arg Asn Arg His Val Val Arg Glu Lys Thr Gly Ala Glu Glu Gln Trp
 65          70          75          80
Lys Arg Arg Gly Lys Arg Glu Leu Leu Val His Met Asp Glu Arg Arg
          85          90          95
Glu Glu Gln Ile Val Gln Leu Leu Asn Ser Val Gln Ala Lys Asn Asp
          100          105          110
Lys Glu Ser Glu Ala Gln Ile Ser Trp Phe Ala Pro Glu Asp His Gly
          115          120          125
Tyr Gly Thr Glu Val Ser Thr Lys Asn Thr Pro Cys Ser Glu Asn Lys
          130          135          140
Leu Asp Ile Gln Glu Lys Lys Leu Ile Asn Gln Glu Lys Lys Met Phe
          145          150          155          160
Arg Ile Arg Asn Arg Ser Tyr Ile Asp Arg Asp Ser Glu Tyr Leu Leu
          165          170          175
Gln Glu Asn Glu Pro Asp Gly Thr Leu Asp Gln Lys Leu Leu Glu Asp
          180          185          190
Leu Gln Lys Lys Lys Asn Asp Leu Arg Tyr Ile Glu Met Gln His Phe
          195          200          205
Arg Glu Lys Leu Pro Ser Tyr Gly Met Gln Lys Glu Leu Val Asn Leu
          210          215          220
Ile Asp Asn His Gln Val Thr Val Ile Ser Gly Glu Thr Gly Cys Gly
          225          230          235          240
Lys Thr Thr Gln Val Thr Gln Phe Ile Leu Asp Asn Tyr Ile Glu Arg
          245          250          255
Gly Lys Gly Ser Ala Cys Arg Ile Val Cys Thr Gln Pro Arg Arg Ile
          260          265          270
Ser Ala Ile Ser Val Ala Glu Arg Val Ala Ala Glu Arg Ala Glu Ser
          275          280          285
Cys Gly Ser Gly Asn Ser Thr Gly Tyr Gln Ile Arg Leu Gln Ser Arg
          290          295          300
Leu Pro Arg Lys Gln Gly Ser Ile Leu Tyr Cys Thr Thr Gly Ile Ile
          305          310          315          320
Leu Gln Trp Leu Gln Ser Asp Pro Tyr Leu Ser Ser Val Ser His Ile
          325          330          335
Val Leu Asp Glu Ile His Glu Arg Asn Leu Gln Ser Asp Val Leu Met
          340          345          350
Thr Val Val Lys Asp Leu Leu Asn Phe Arg Ser Asp Leu Lys Val Ile
          355          360          365
Leu Met Ser Ala Thr Leu Asn Ala Glu Lys Phe Ser Glu Tyr Phe Gly
          370          375          380
Asn Cys Pro Met Ile His Ile Pro Gly Phe Thr Phe Pro Val Val Glu
          385          390          395          400
Tyr Leu Leu Glu Asp Val Ile Glu Lys Ile Arg Tyr Val Pro Glu Gln
          405          410          415
Lys Glu His Arg Cys Gln Phe Lys Arg Gly Phe Met Gln Gly His Val
          420          425          430
Asn Ser Gln Glu Lys Glu Glu Lys Glu Ala Ile Tyr Lys Glu Arg Trp

```

|                             |                         |                 |
|-----------------------------|-------------------------|-----------------|
| 435                         | 440                     | 445             |
| Pro Asp Tyr Val Arg Glu     | Leu Arg Arg Arg Tyr Ser | Ala Ser Thr Val |
| 450                         | 455                     | 460             |
| Asp Val Ile Glu Met Met     | Glu Asp Asp Lys Val Asp | Leu Asn Leu Ile |
| 465                         | 470                     | 475             |
| Val Ala Leu Ile Arg Tyr     | Ile Val Leu Glu Glu Glu | Asp Gly Ala Ile |
| 485                         | 490                     | 495             |
| Leu Val Phe Leu Pro Gly Trp | Asp Asn Ile Ser Thr     | Leu His Asp Leu |
| 500                         | 505                     | 510             |
| Leu Met Ser Gln Val Met Phe | Lys Ser Asp Lys Phe     | Leu Ile Ile Pro |
| 515                         | 520                     | 525             |
| Leu His Ser Leu Met Pro Thr | Val Asn Gln Thr Gln     | Val Phe Lys Arg |
| 530                         | 535                     | 540             |
| Thr Pro Pro Gly Val Arg Lys | Ile Val Ile Ala Thr     | Asn Ile Ala Glu |
| 545                         | 550                     | 555             |
| Thr Ser Ile Thr Ile Asp Asp | Val Val Tyr Val Ile     | Asp Gly Gly Lys |
| 565                         | 570                     | 575             |
| Ile Lys Glu Thr His Phe Asp | Thr Gln Asn Asn Ile     | Ser Thr Met Ser |
| 580                         | 585                     | 590             |
| Ala Glu Trp Val Ser Lys Ala | Asn Ala Lys Gln Arg     | Lys Gly Arg Ala |
| 595                         | 600                     | 605             |
| Gly Arg Val Gln Pro Gly Ser | Leu Leu Phe Ile Cys     | Ile Asn Gly Ser |
| 610                         | 615                     | 620             |
| Xaa Glu Ala Ser Leu Leu Gly | Trp Thr Ile Gln Leu     | Pro Glu Ile Phe |
| 625                         | 630                     | 635             |
| Arg Gly Thr Pro Leu Glu Glu | Leu Cys Leu Gln Ile     | Lys Val Leu Arg |
| 645                         | 650                     | 655             |
| Leu Gly Gly Ile Gly Leu Phe | Leu Ser Arg Leu Met     | Asp Pro Pro Ser |
| 660                         | 665                     | 670             |
| Asn Glu Ala Val Leu Leu Ser | Ile Arg Gln Leu Arg     | Ser Leu Asn Ala |
| 675                         | 680                     | 685             |
| Leu Asp Lys Gln Glu Glu Leu | Thr Pro Leu Gly Val     | His Leu Ala Arg |
| 690                         | 695                     | 700             |
| Leu Pro Val Glu Pro His Ile | Gly Lys Met Ile Leu     | Phe Gly Ala Leu |
| 705                         | 710                     | 715             |
| Phe Cys Cys Leu Asp Pro Val | Leu Thr Ile Ala Ala     | Ser Leu Ser Phe |
| 725                         | 730                     | 735             |
| Lys Asp Pro Phe Val Ile Pro | Leu Gly Lys Glu Lys     | Ile Ala Asp Ala |
| 740                         | 745                     | 750             |
| Arg Arg Lys Glu Leu Ala Lys | Asp Thr Arg Ser Asp     | His Leu Thr Val |
| 755                         | 760                     | 765             |
| Val Asn Ala Phe Glu Gly Trp | Glu Glu Ala Arg Arg     | Arg Gly Phe Arg |
| 770                         | 775                     | 780             |
| Tyr Glu Lys Asp Tyr Cys Trp | Glu Tyr Phe Leu Ser     | Ser Asn Thr Leu |
| 785                         | 790                     | 795             |
| Gln Met Leu His Asn Met Lys | Gly Gln Phe Ala Glu     | His Leu Leu Gly |
| 805                         | 810                     | 815             |
| Ala Gly Phe Val Ser Ser Arg | Asn Pro Lys Asp Pro     | Glu Ser Asn Ile |
| 820                         | 825                     | 830             |
| Asn Ser Asp Asn Glu Lys Ile | Ile Lys Ala Val Ile     | Cys Ala Gly Leu |
| 835                         | 840                     | 845             |
| Tyr Pro Lys Val Ala Lys Ile | Arg Leu Asn Leu Gly     | Lys Lys Arg Lys |
| 850                         | 855                     | 860             |
| Met Val Lys Val Tyr Thr Lys | Thr Asp Gly Leu Val     | Ala Val His Pro |
| 865                         | 870                     | 875             |
| Lys Ser Val Asn Val Glu Gln | Thr Asp Phe His Tyr     | Asn Trp Leu Ile |
| 885                         | 890                     | 895             |
| Tyr His Leu Lys Met Arg Thr | Ser Ser Ile Tyr Leu     | Tyr Asp Cys Thr |
| 900                         | 905                     | 910             |
| Glu Val Ser Pro Tyr Cys Leu | Leu Phe Phe Gly Gly     | Asp Ile Ser Ile |
| 915                         | 920                     | 925             |
| Gln Lys Asp Asn Asp Gln Glu | Thr Ile Ala Val Asp     | Glu Trp Ile Val |
| 930                         | 935                     | 940             |
| Phe Gln Ser Pro Ala Arg Ile | Ala His Leu Val Lys     | Arg Ala Val Val |

|   |     |     |      |     |      |      |
|---|-----|-----|------|-----|------|------|
| 945   |     | 950 |      | 955 |      | 960  |
| His Met Asp Glu Arg Arg Glu Glu Gln Ile Val Gln Leu Leu Asn Ser |     |     |      |     |      |      |
|   |     | 965 |      | 970 |      | 975  |
| Val Gln Ala Lys Asn Asp Lys Glu Ser Glu Ala Gln Ile Ser Trp Phe |     |     |      |     |      |      |
|   |     | 980 |      | 985 |      | 990  |
| Ala Pro Glu Asp His Gly Tyr Asp Lys Lys Tyr Phe Phe Lys Glu     |     |     |      |     |      |      |
|   | 995 |     | 1000 |     | 1005 | 1007 |

&lt;210&gt; 3365

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(146)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3365

|   |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|---|--|--|-----|--|----|-----|-----|----|----|----|--|-----|-----|----|----|--|
| Glu Cys Cys Asn Val Arg Pro Leu Arg Glu Thr Asp Leu Leu Lys Met |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
| 1   |  |  | 5   |  |    |     |     | 10 |    |    |  |     |     | 15 |    |  |
| Lys Arg Lys Pro Arg Ala Ser Ser Pro Val Val Glu Glu Gln Pro Arg |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 20  |  |    |     |     | 25 |    |    |  |     | 30  |    |    |  |
| Ala Asn Thr Lys Glu Thr Arg Lys Lys Lys Ser Phe Ser Gln Pro Met |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 35  |  |    |     | 40  |    |    |    |  | 45  |     |    |    |  |
| Ser Ala Ser Thr Lys Glu Glu Ser Gln Asp Gly Arg Arg Lys Gly Lys |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 50  |  |    | 55  |     |    |    | 60 |  |     |     |    |    |  |
| Xaa Leu Lys Gly Arg Ala Arg Lys Lys Asn Ala Pro Gln Lys Ser Met |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
| 65  |  |  |     |  | 70 |     |     |    | 75 |    |  |     |     |    | 80 |  |
| Ala Leu Arg Ile Leu Glu Glu Gly Ser Arg Pro Thr Pro Ser Gly His |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  |     |  | 85 |     |     | 90 |    |    |  |     |     | 95 |    |  |
| Ser Asp Gln Leu Asn Glu Glu Leu Xaa Gln Asn Glu Leu Gln Leu Glu |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 100 |  |    |     | 105 |    |    |    |  |     | 110 |    |    |  |
| Gln Pro Glu Gly Thr Xaa Leu Glu Gln Gln Ser Glu Gly Thr Gln Pro |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 115 |  |    |     | 120 |    |    |    |  |     | 125 |    |    |  |
| Glu Gln Gln Ser Gly Arg Met Pro Thr Ile Ser Thr Leu Ser Leu Ser |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
|   |  |  | 130 |  |    | 135 |     |    |    |    |  | 140 |     |    |    |  |
| Ser Glu   |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |
| 145 146   |  |  |     |  |    |     |     |    |    |    |  |     |     |    |    |  |

&lt;210&gt; 3366

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(275)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3366

|   |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |
|---|--|--|----|---|--|----|----|----|--|----|--|----|----|----|--|
| Phe Arg Gly Tyr Trp Gly Val Arg Glu Ala Phe Thr Asp Ala Ser Trp |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |
| 1   |  |  |    | 5 |  |    |    | 10 |  |    |  |    |    | 15 |  |
| Ser Gly Gly Leu Gly Pro Gly Lys Pro Gly Met Lys Ile Thr Arg Gln |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |
|   |  |  | 20 |   |  |    |    | 25 |  |    |  |    | 30 |    |  |
| Lys His Ala Lys Lys His Leu Gly Phe Phe Arg Asn Asn Phe Gly Val |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |
|   |  |  | 35 |   |  |    | 40 |    |  |    |  | 45 |    |    |  |
| Arg Glu Pro Tyr Gln Ile Leu Leu Asp Gly Thr Phe Cys Gln Ala Ala |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |
|   |  |  | 50 |   |  | 55 |    |    |  | 60 |  |    |    |    |  |
| Leu Arg Gly Arg Ile Gln Leu Arg Glu Gln Leu Pro Arg Tyr Leu Met |  |  |    |   |  |    |    |    |  |    |  |    |    |    |  |



```

65          70          75          80
Gly Glu Thr Gln Leu Cys Thr Thr Arg Cys Val Leu Lys Glu Leu Glu
      85          90          95
Thr Leu Gly Lys Asp Leu Tyr Gly Ala Lys Leu Ile Ala Gln Lys Cys
      100          105          110
Gln Val Arg Asn Cys Pro His Phe Lys Asn Ala Val Ser Gly Ser Glu
      115          120          125
Cys Leu Leu Ser Met Val Glu Glu Gly Asn Pro His His Tyr Phe Val
      130          135          140
Ala Thr Gln Asp Gln Asn Leu Ser Val Lys Val Lys Lys Lys Pro Gly
145          150          155          160
Val Pro Leu Met Phe Ile Ile Gln Asn Thr Met Val Leu Asp Lys Pro
      165          170          175
Ser Pro Lys Thr Ile Ala Phe Val Lys Ala Val Glu Ser Gly Arg Leu
      180          185          190
Ser Gln Cys Met Arg Lys Lys Val Ser Asn Ile Ser Lys Arg Asn Arg
      195          200          205
Val Xaa Xaa Lys Thr Leu Asn Arg Gly Arg Arg Lys Lys Arg Lys Lys
210          215          220
Ile Ser Gly Pro Asn Pro Leu Ser Cys Leu Lys Lys Lys Lys Lys Ala
225          230          235          240
Pro Asp Thr Gln Ser Ser Ala Ser Glu Lys Lys Arg Lys Arg Lys Arg
      245          250          255
Ile Arg Asn Arg Ser Asn Pro Lys Val Leu Ser Glu Lys Gln Asn Ala
      260          265          270
Glu Gly Glu
      275

```

&lt;210&gt; 3367

&lt;211&gt; 476

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(474)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3367

```

Met Leu Trp Gly Cys Arg Ala Lys Ala Cys Trp Gly Pro Arg Leu Ser
1          5          10          15
Asp Leu Val Ala Ser Leu Ser Pro Gln Arg Glu Cys Ile Ser Val His
      20          25          30
Val Gly Gln Ala Gly Val Gln Ile Gly Asn Ala Cys Trp Glu Leu Phe
      35          40          45
Cys Leu Glu His Gly Ile Gln Ala Asp Gly Thr Phe Asp Ala Gln Ala
      50          55          60
Ser Lys Ile Asn Asp Asp Asp Ser Phe Thr Thr Phe Phe Ser Glu Thr
65          70          75          80
Gly Asn Gly Lys His Val Pro Arg Ala Val Met Ile Asp Leu Glu Pro
      85          90          95
Thr Val Val Asp Glu Val Arg Ala Gly Thr Tyr Arg Gln Leu Phe His
      100          105          110
Pro Glu Gln Leu Ile Thr Gly Lys Glu Asp Ala Ala Asn Asn Tyr Ala
      115          120          125
Arg Gly His Tyr Thr Val Gly Lys Glu Ser Ile Asp Leu Val Leu Asp
130          135          140
Arg Ile Arg Lys Leu Thr Asp Ala Cys Ser Gly Leu Gln Gly Phe Leu
145          150          155          160
Ile Phe His Ser Phe Gly Gly Gly Thr Gly Ser Gly Phe Thr Ser Leu
      165          170          175
Leu Met Glu Arg Leu Ser Leu Asp Tyr Gly Lys Lys Ser Lys Leu Glu

```

```

      180      185      190
Phe Ala Ile Tyr Pro Ala Pro Gln Val Ser Thr Ala Val Val Glu Pro
      195      200      205
Tyr Asn Ser Ile Leu Thr Thr His Thr Thr Leu Glu His Ser Asp Cys
      210      215      220
Ala Phe Met Val Asp Asn Glu Ala Ile Tyr Asp Ile Cys Arg Arg Asn
225      230      235      240
Leu Asp Ile Glu Arg Pro Thr Tyr Thr Asn Leu Asn Arg Leu Ile Ser
      245      250      255
Gln Ile Val Ser Ser Ile Thr Ala Ser Leu Arg Phe Asp Gly Ala Leu
      260      265      270
Asn Val Asp Leu Thr Glu Phe Gln Thr Asn Leu Val Pro Tyr Pro Arg
      275      280      285
Ile His Phe Pro Leu Val Thr Tyr Ala Pro Ile Ile Ser Ala Glu Lys
      290      295      300
Ala Tyr His Glu Gln Leu Ser Val Ala Glu Ile Thr Ser Ser Cys Phe
305      310      315      320
Glu Pro Asn Ser Gln Met Val Lys Cys Asp Pro Arg His Gly Lys Tyr
      325      330      335
Met Ala Cys Cys Met Leu Tyr Arg Gly Asp Val Val Pro Lys Asp Val
      340      345      350
Asn Val Ala Ile Ala Ala Ile Lys Thr Lys Arg Thr Ile Gln Phe Val
      355      360      365
Asp Trp Cys Pro Thr Gly Phe Lys Val Gly Ile Asn Tyr Gln Pro Pro
      370      375      380
Thr Val Val Pro Gly Gly Asp Leu Ala Lys Val Gln Arg Ala Val Cys
385      390      395      400
Met Leu Ser Asn Thr Thr Ala Ile Ala Glu Ala Trp Ala Arg Leu Asp
      405      410      415
His Lys Phe Asp Leu Met Tyr Ala Lys Arg Ala Phe Val His Trp Tyr
      420      425      430
Val Gly Glu Gly Met Glu Glu Gly Glu Phe Ser Xaa Arg Pro Gly Glu
      435      440      445
Asp Leu Ala Ala Leu Glu Lys Asp Tyr Glu Glu Val Gly Thr Asp Ser
      450      455      460
Phe Glu Glu Glu Asn Glu Gly Glu Glu Phe
465      470      474

```

&lt;210&gt; 3368

&lt;211&gt; 867

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(863)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3368

```

Ser Leu Leu Glu Glu Thr Met Asp Glu Asp Ser Ser Leu Arg Glu Tyr
 1      5      10      15
Thr Val Ser Leu Asp Ser Asp Met Asp Asp Ala Ser Lys Cys Leu Gln
      20      25      30
Glu Tyr Asp Ser Gly Thr Gly Asn Thr Arg Glu Ala Leu Arg Pro Cys
      35      40      45
Pro Arg Thr Val Ser Thr Lys Ala Gln Pro Gly Arg Ser Ala Ser Ser
      50      55      60
Ser Ser Gly Asp Lys Thr Thr Ser Phe Ala Glu Gln Lys Ile Arg Lys
      65      70      75      80
Leu Asn His Thr Asp Gly Glu Ser Ser Gly Ser Ser Ser Gln Lys Thr
      85      90      95
Thr Pro Glu Gly Ser Glu Leu Asn Ile Pro His Ala Gly Ala Trp Ala

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Gln | Ile | Pro | Glu | Glu | Thr | Gly | Leu | Pro | Gln | Gly | Arg | Asp | Thr | Thr | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Leu | Ala | Ser | Glu | Met | Val | His | Leu | Met | Met | Lys | Leu | Lys | Glu | Lys |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Arg | Arg | Ala | Ile | Xaa | Ala | Gln | Lys | Lys | Lys | Met | Glu | Ala | Ala | Phe | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Gln | Arg | Gln | Lys | Met | Gly | Arg | Thr | Ala | Phe | Leu | Thr | Val | Val | Lys |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Lys | Lys | Gly | Asp | Gly | Ile | Ser | Pro | Leu | Arg | Glu | Glu | Ala | Ala | Gly | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Asp | Glu | Lys | Val | Tyr | Thr | Asp | Arg | Ala | Lys | Glu | Lys | Glu | Ser | Gln |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Thr | Asp | Gly | Gln | Arg | Ser | Lys | Ser | Leu | Ala | Asp | Ile | Lys | Glu | Ser |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Met | Glu | Asn | Pro | Gln | Ala | Lys | Trp | Leu | Lys | Ser | Pro | Thr | Thr | Pro | Ile |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Pro | Glu | Lys | Gln | Gly | Asn | Leu | Ala | Ser | Pro | Ser | Glu | Glu | Thr | Leu |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Asn | Glu | Gly | Glu | Ile | Leu | Glu | Tyr | Thr | Lys | Ser | Ile | Glu | Lys | Leu | Asn |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ser | Ser | Leu | His | Phe | Leu | Gln | Gln | Glu | Met | Gln | Arg | Leu | Ser | Leu | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Glu | Met | Leu | Met | Gln | Met | Arg | Glu | Gln | Gln | Ser | Trp | Val | Ile | Ser |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Pro | Gln | Pro | Ser | Pro | Gln | Lys | Gln | Ile | Arg | Asp | Phe | Lys | Pro | Ser |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Lys | Gln | Ala | Gly | Leu | Ser | Ser | Ala | Ile | Ala | Pro | Phe | Ser | Ser | Asp | Ser |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Pro | Arg | Pro | Thr | His | Pro | Ser | Ser | Thr | Ser | Leu | Leu | Asn | Arg | Lys | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Ser | Phe | Ser | Val | Lys | Ser | Gln | Arg | Thr | Pro | Arg | Pro | Asn | Glu | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     | 365 |     |     |     |     |
| Lys | Ile | Thr | Pro | Leu | Asn | Arg | Thr | Leu | Thr | Pro | Pro | Arg | Ser | Val | Asp |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ser | Leu | Pro | Arg | Leu | Arg | Arg | Phe | Ser | Pro | Ser | Gln | Val | Pro | Ile | Gln |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Thr | Arg | Ser | Phe | Val | Cys | Phe | Gly | Asp | Asp | Gly | Glu | Pro | Gln | Leu | Lys |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Glu | Ser | Lys | Pro | Lys | Glu | Glu | Val | Lys | Lys | Glu | Glu | Leu | Glu | Ser | Lys |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gly | Thr | Leu | Glu | Gln | Arg | Gly | His | Asn | Pro | Glu | Glu | Lys | Glu | Ile | Lys |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Pro | Phe | Glu | Ser | Thr | Val | Ser | Glu | Val | Leu | Ser | Leu | Pro | Val | Thr | Glu |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Thr | Val | Cys | Leu | Thr | Pro | Asn | Glu | Asp | Gln | Leu | Asn | Gln | Pro | Thr | Glu |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Pro | Pro | Pro | Lys | Pro | Val | Phe | Pro | Pro | Thr | Ala | Pro | Lys | Asn | Val | Asn |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Ile | Glu | Val | Ser | Leu | Ser | Asp | Leu | Lys | Pro | Pro | Glu | Lys | Ala | Asp |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Val | Pro | Val | Glu | Lys | Tyr | Asp | Gly | Glu | Ser | Asp | Lys | Glu | Gln | Phe | Asp |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Asp | Asp | Gln | Lys | Val | Cys | Cys | Gly | Phe | Phe | Phe | Lys | Asp | Asp | Gln | Lys |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Ala | Glu | Asn | Asp | Met | Ala | Met | Lys | Arg | Ala | Ala | Leu | Leu | Glu | Lys | Arg |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Leu | Arg | Arg | Glu | Lys | Glu | Thr | Gln | Leu | Arg | Lys | Gln | Gln | Leu | Glu | Ala |
|     |     |     |     | 565 |     |     |     | 570 |     |     |     |     |     | 575 |     |
| Glu | Met | Glu | His | Lys | Lys | Glu | Glu | Thr | Arg | Arg | Lys | Thr | Glu | Glu | Glu |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Arg | Gln | Lys | Lys | Glu | Asp | Glu | Arg | Ala | Arg | Arg | Glu | Phe | Ile | Arg | Gln |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Glu | Tyr | Met | Arg | Arg | Lys | Gln | Leu | Lys | Leu | Met | Glu | Asp | Met | Asp | Thr |

|   |     |     |
|---|-----|-----|
| 610   | 615 | 620 |
| Val Ile Lys Pro Arg Pro Gln Val Val Lys Gln Lys Lys Gln Arg Pro |     |     |
| 625   | 630 | 635 |
| Lys Ser Ile His Arg Asp His Ile Glu Ser Pro Lys Thr Pro Ile Lys |     | 640 |
|   | 645 | 650 |
| Gly Pro Pro Val Ser Ser Leu Ser Leu Ala Ser Leu Asn Thr Gly Asp |     | 655 |
|   | 660 | 665 |
| Asn Glu Ser Val His Ser Gly Lys Arg Thr Pro Arg Ser Glu Ser Val |     | 670 |
|   | 675 | 680 |
| Glu Gly Phe Leu Ser Pro Ser Arg Cys Gly Ser Arg Asn Gly Glu Lys |     | 685 |
|   | 690 | 695 |
| Asp Trp Glu Asn Ala Ser Thr Thr Ser Ser Val Ala Ser Gly Thr Glu |     | 700 |
| 705   | 710 | 715 |
| Tyr Thr Gly Pro Lys Leu Tyr Lys Glu Pro Ser Ala Lys Ser Asn Lys |     | 720 |
|   | 725 | 730 |
| His Ile Ile Gln Asn Ala Leu Ala His Cys Cys Leu Ala Gly Lys Val |     | 735 |
|   | 740 | 745 |
| Asn Glu Gly Gln Lys Lys Lys Ile Leu Glu Glu Met Glu Lys Ser Asp |     | 750 |
|   | 755 | 760 |
| Ala Asn Asn Phe Leu Ile Leu Phe Arg Asp Ser Gly Cys Gln Phe Arg |     | 765 |
|   | 770 | 775 |
| Ser Leu Tyr Thr Tyr Cys Pro Glu Thr Glu Glu Ile Asn Lys Leu Thr |     | 780 |
| 785   | 790 | 795 |
| Gly Ile Gly Pro Lys Ser Ile Thr Lys Lys Met Ile Glu Gly Leu Tyr |     | 800 |
|   | 805 | 810 |
| Lys Tyr Asn Ser Asp Arg Lys Gln Phe Ser His Ile Pro Ala Lys Thr |     | 815 |
|   | 820 | 825 |
| Leu Ser Ala Ser Val Asp Ala Ile Thr Ile His Ser His Leu Trp Gln |     | 830 |
|   | 835 | 840 |
| Thr Lys Arg Pro Val Thr Pro Lys Lys Leu Leu Pro Thr Lys Ala     |     | 845 |
| 850   | 855 | 860 |
|   |     | 863 |

<210> 3369  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3369  |
| Arg Gly Ser Gly Leu Thr Gln Glu Pro Gly Ser Val Gly Gln Leu Ala |
| 1 5 10 15   |
| Leu Ala Cys Ala Glu Gly Ala Val Glu Trp Leu Tyr Pro Ala Gly Ala |
| 20 25 30  |
| Leu Arg Leu Thr Leu Gly Gly Pro Asp Pro Arg Ala Arg Pro Gly Ile |
| 35 40 45  |
| Ala Cys Leu Arg Pro Val Arg Pro Phe Ala Gly Ala Gln Val Phe Ala |
| 50 55 60  |
| Glu Arg Ala Gly Gly Ala Leu Glu Leu Leu Leu Ala Glu Gly Pro Gly |
| 65 70 75 80   |
| Pro Ala Gly Gly Arg Cys Val Arg Trp Gly Pro Arg Glu Arg Arg Ala |
| 85 90 95  |
| Leu Phe Leu Gln Ala Thr Pro His Gln Asp Ile Ser Arg Arg Val Ala |
| 100 105 110   |
| Ala Phe Arg Phe Glu Leu Arg Glu Asp Gly Arg Pro Glu Ile Ala Pro |
| 115 120 125 128   |

<210> 3370  
 <211> 285

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(284)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3370

```

Asp Leu Ser Leu Glu Cys Thr Gly Phe Lys Glu Thr Asn Leu Gly Val
 1          5          10          15
Tyr Phe Leu Ser Ser Lys Trp Val Leu Arg Leu Tyr Ala Leu His Ile
          20          25          30
Ile Asp Tyr Ser Ala Val Leu Phe Pro Cys Xaa Ala Met Asp His Leu
          35          40          45
Glu Ser Phe Ile Ala Glu Cys Asp Arg Arg Thr Glu Leu Ala Lys Lys
          50          55          60
Arg Leu Ala Glu Thr Gln Glu Glu Ile Ser Ala Glu Val Ser Ala Lys
          65          70          75          80
Ala Glu Lys Val His Glu Leu Asn Glu Glu Ile Gly Lys Leu Leu Ala
          85          90          95
Lys Ala Glu Gln Leu Gly Ala Glu Gly Asn Val Asp Glu Ser Gln Lys
          100          105          110
Ile Leu Met Glu Val Glu Lys Val Arg Ala Lys Lys Lys Glu Ala Glu
          115          120          125
Lys Thr Val Ala Glu Lys Gln Glu Lys Arg Asn Gln Asp Arg Leu Arg
          130          135          140
Arg Arg Glu Glu Arg Glu Arg Glu Glu Arg Leu Ser Arg Arg Ser Gly
          145          150          155          160
Ser Arg Thr Arg Asp Arg Arg Arg Ser Arg Ser Arg Asp Arg Arg Arg
          165          170          175
Arg Arg Ser Arg Ser Thr Ser Arg Glu Arg Arg Lys Leu Ser Arg Ser
          180          185          190
Arg Ser Arg Asp Arg His Arg Arg His Arg Ser Arg Ser Arg Ser His
          195          200          205
Ser Arg Gly His Arg Arg Ala Ser Arg Asp Arg Ser Ala Lys Tyr Lys
          210          215          220
Phe Ser Arg Glu Arg Ala Ser Arg Glu Glu Ser Trp Glu Ser Gly Arg
          225          230          235          240
Ser Glu Arg Gly Pro Pro Asp Trp Arg Leu Glu Ser Ser Asn Gly Lys
          245          250          255
Met Ala Ser Arg Arg Ser Glu Glu Lys Glu Ala Gly Gly Asp Leu Leu
          260          265          270
Asn Arg Met Ile Val Trp Lys His Gly Leu Leu Ile
          275          280          284

```

&lt;210&gt; 3371

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(284)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3371

```

Asp Leu Ser Leu Glu Cys Thr Gly Phe Lys Glu Thr Asn Leu Gly Val
 1          5          10          15
Tyr Phe Leu Ser Ser Lys Trp Val Leu Arg Leu Tyr Ala Leu His Ile
          20          25          30
Ile Asp Tyr Ser Ala Val Leu Phe Pro Cys Xaa Ala Met Asp His Leu

```

| 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ser | Phe | Ile | Ala | Glu | Cys | Asp | Arg | Arg | Thr | Glu | Leu | Ala | Lys | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Leu | Ala | Glu | Thr | Gln | Glu | Glu | Ile | Ser | Ala | Glu | Val | Ser | Ala | Lys |
|     | 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Ala | Glu | Lys | Val | His | Glu | Leu | Asn | Glu | Glu | Ile | Gly | Lys | Leu | Leu | Ala |
|     |     |     |     | 85  |     |     |     |     |     |     | 90  |     |     |     | 95  |
| Lys | Ala | Glu | Gln | Leu | Gly | Ala | Glu | Gly | Asn | Val | Asp | Glu | Ser | Gln | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Leu | Met | Glu | Val | Glu | Lys | Val | Arg | Ala | Lys | Lys | Lys | Glu | Ala | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Thr | Val | Ala | Glu | Lys | Gln | Glu | Lys | Arg | Asn | Gln | Asp | Arg | Leu | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Arg | Glu | Glu | Arg | Glu | Arg | Glu | Glu | Arg | Leu | Ser | Arg | Arg | Ser | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ser | Arg | Thr | Arg | Asp | Arg | Arg | Arg | Ser | Arg | Ser | Arg | Asp | Arg | Arg | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Arg | Ser | Arg | Ser | Thr | Ser | Arg | Glu | Arg | Arg | Lys | Leu | Ser | Arg | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Arg | Ser | Arg | Asp | Arg | His | Arg | Arg | His | Arg | Ser | Arg | Ser | Arg | Ser | His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Arg | Gly | His | Arg | Arg | Ala | Ser | Arg | Asp | Arg | Ser | Ala | Lys | Tyr | Lys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Phe | Ser | Arg | Glu | Arg | Ala | Ser | Arg | Glu | Glu | Ser | Trp | Glu | Ser | Gly | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ser | Glu | Arg | Gly | Pro | Pro | Asp | Trp | Arg | Leu | Glu | Ser | Ser | Asn | Gly | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Met | Ala | Ser | Arg | Arg | Ser | Glu | Glu | Lys | Glu | Ala | Gly | Gly | Asp | Leu | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asn | Arg | Met | Ile | Val | Trp | Lys | His | Gly | Leu | Leu | Ile |     |     |     |     |
|     |     | 275 |     |     |     |     | 280 |     |     |     | 284 |     |     |     |     |

```
<210> 3372
<211> 1036
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(1035)
<223> Xaa = any amino acid or nothing
```

| <400> 3372 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro        | Met | Gln | Asn | Cys | Met | Cys | Ser | Leu | Thr | Leu | Ser | Val | Leu | Pro | Leu |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly        | Pro | Gln | Pro | Pro | Val | Pro | Glu | Lys | Arg | Pro | Pro | Glu | Ile | Gln | His |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe        | Arg | Met | Ser | Asp | Asp | Val | His | Ser | Leu | Gly | Lys | Val | Thr | Ser | Asp |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu        | Ala | Lys | Arg | Arg | Lys | Leu | Thr | Ser | Xaa | Gly | Gly | Leu | Ser | Glu | Glu |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu        | Gly | Ser | Ala | Arg | Arg | Ser | Gly | Glu | Val | Thr | Leu | Thr | Lys | Gly | Asp |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro        | Gly | Ser | Leu | Glu | Glu | Trp | Glu | Thr | Val | Val | Gly | Asp | Asp | Phe | Ser |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu        | Tyr | Tyr | Asp | Ser | Tyr | Ser | Val | Asp | Glu | Arg | Val | Asp | Ser | Asp | Ser |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys        | Ser | Glu | Val | Glu | Ala | Leu | Thr | Glu | Gln | Leu | Ser | Glu | Glu | Glu | Glu |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu        | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu |
|            | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu        | Glu | Glu | Glu | Asp | Glu | Glu | Ser | Gly | Asn | Gln | Ser | Asp | Arg | Ser | Gly |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |
| Ser | Ser | Gly | Arg | Arg | Lys | Ala | Lys | Lys | Lys | Trp | Arg | Lys | Asp | Ser |
|     |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |
| Trp | Val | Lys | Pro | Ser | Arg | Lys | Arg | Arg | Lys | Arg | Glu | Pro | Pro | Arg |
|     |     |     |     |     | 180 |     |     |     |     | 185 |     |     |     | 190 |
| Lys | Glu | Pro | Arg | Gly | Val | Asn | Gly | Val | Gly | Ser | Ser | Gly | Pro | Ser |
|     |     |     |     |     | 195 |     |     |     |     | 200 |     |     |     | 205 |
| Tyr | Met | Glu | Val | Pro | Leu | Gly | Ser | Leu | Glu | Leu | Pro | Ser | Glu | Gly |
|     |     |     |     |     | 210 |     |     |     |     | 215 |     |     |     | 220 |
| Leu | Ser | Pro | Asn | His | Ala | Gly | Val | Ser | Asn | Asp | Thr | Ser | Ser | Leu |
|     |     |     |     |     | 225 |     |     |     |     | 230 |     |     |     | 235 |
| Thr | Glu | Arg | Gly | Phe | Glu | Glu | Leu | Pro | Leu | Cys | Ser | Cys | Arg | Met |
|     |     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |
| Ala | Pro | Lys | Ile | Asp | Arg | Ile | Ser | Glu | Arg | Ala | Gly | His | Lys | Cys |
|     |     |     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |
| Ala | Thr | Glu | Ser | Val | Asp | Gly | Glu | Leu | Ser | Gly | Cys | Asn | Ala | Ala |
|     |     |     |     |     | 275 |     |     |     |     | 280 |     |     |     | 285 |
| Leu | Lys | Arg | Glu | Thr | Met | Arg | Pro | Ser | Ser | Arg | Val | Ala | Leu | Met |
|     |     |     |     |     | 290 |     |     |     |     | 295 |     |     |     | 300 |
| Leu | Cys | Glu | Thr | His | Arg | Ala | Arg | Met | Val | Lys | His | His | Cys | Cys |
|     |     |     |     |     | 305 |     |     |     |     | 310 |     |     |     | 315 |
| Gly | Cys | Gly | Tyr | Phe | Cys | Thr | Ala | Gly | Thr | Phe | Leu | Glu | Cys | His |
|     |     |     |     |     | 325 |     |     |     |     | 330 |     |     |     | 335 |
| Asp | Phe | Arg | Val | Ala | His | Arg | Phe | His | Lys | Ala | Cys | Val | Ser | Gln |
|     |     |     |     |     | 340 |     |     |     |     | 345 |     |     |     | 350 |
| Asn | Gly | Met | Val | Phe | Cys | Pro | His | Cys | Gly | Glu | Asp | Ala | Ser | Glu |
|     |     |     |     |     | 355 |     |     |     |     | 360 |     |     |     | 365 |
| Gln | Glu | Val | Thr | Ile | Pro | Arg | Gly | Asp | Gly | Val | Thr | Pro | Pro | Ala |
|     |     |     |     |     | 370 |     |     |     |     | 375 |     |     |     | 380 |
| Thr | Ala | Ala | Pro | Ala | Pro | Pro | Pro | Leu | Ser | Gln | Asp | Val | Pro | Gly |
|     |     |     |     |     | 385 |     |     |     |     | 390 |     |     |     | 395 |
| Ala | Asp | Thr | Ser | Gln | Pro | Ser | Ala | Arg | Met | Arg | Gly | His | Gly | Glu |
|     |     |     |     |     | 405 |     |     |     |     | 410 |     |     |     | 415 |
| Arg | Arg | Pro | Pro | Cys | Asp | Pro | Leu | Ala | Asp | Thr | Ile | Asp | Ser | Ser |
|     |     |     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |
| Pro | Ser | Leu | Thr | Leu | Pro | Asn | Gly | Gly | Cys | Leu | Ser | Ala | Val | Gly |
|     |     |     |     |     | 435 |     |     |     |     | 440 |     |     |     | 445 |
| Pro | Leu | Gly | Pro | Gly | Arg | Glu | Ala | Leu | Glu | Lys | Ala | Leu | Val | Ile |
|     |     |     |     |     | 450 |     |     |     |     | 455 |     |     |     | 460 |
| Glu | Ser | Glu | Arg | Arg | Lys | Lys | Leu | Arg | Phe | His | Pro | Arg | Gln | Leu |
|     |     |     |     |     | 465 |     |     |     |     | 470 |     |     |     | 475 |
| Leu | Ser | Val | Lys | Gln | Gly | Glu | Leu | Gln | Lys | Val | Ile | Leu | Met | Leu |
|     |     |     |     |     | 485 |     |     |     |     | 490 |     |     |     | 495 |
| Asp | Asn | Leu | Asp | Pro | Asn | Phe | Gln | Ser | Asp | Gln | Gln | Ser | Lys | Arg |
|     |     |     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |
| Pro | Leu | His | Ala | Ala | Ala | Gln | Lys | Gly | Ser | Val | Glu | Ile | Cys | His |
|     |     |     |     |     | 515 |     |     |     |     | 520 |     |     |     | 525 |
| Leu | Leu | Gln | Ala | Gly | Ala | Asn | Ile | Asn | Ala | Val | Asp | Lys | Gln | Gln |
|     |     |     |     |     | 530 |     |     |     |     | 535 |     |     |     | 540 |
| Thr | Pro | Leu | Met | Glu | Ala | Val | Val | Asn | Asn | His | Leu | Glu | Val | Ala |
|     |     |     |     |     | 545 |     |     |     |     | 550 |     |     |     | 555 |
| Tyr | Met | Val | Gln | Arg | Gly | Gly | Cys | Val | Tyr | Ser | Lys | Glu | Glu | Asp |
|     |     |     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 |
| Ser | Thr | Cys | Leu | His | His | Ala | Ala | Lys | Ile | Gly | Asn | Leu | Glu | Met |
|     |     |     |     |     | 580 |     |     |     |     | 585 |     |     |     | 590 |
| Ser | Leu | Leu | Leu | Ser | Thr | Gly | Gln | Val | Asp | Val | Asn | Ala | Gln | Asp |
|     |     |     |     |     | 595 |     |     |     |     | 600 |     |     |     | 605 |
| Gly | Gly | Trp | Thr | Pro | Ile | Ile | Trp | Ala | Ala | Glu | His | Lys | His | Ile |
|     |     |     |     |     | 610 |     |     |     |     | 615 |     |     |     | 620 |
| Val | Ile | Arg | Met | Leu | Leu | Thr | Arg | Gly | Ala | Asp | Val | Thr | Leu | Thr |
|     |     |     |     |     | 625 |     |     |     |     | 630 |     |     |     | 635 |
| Asn | Glu | Glu | Asn | Ile | Cys | Leu | His | Trp | Ala | Ser | Phe | Thr | Gly | Ser |
|     |     |     |     |     | 645 |     |     |     |     | 650 |     |     |     | 655 |
| Ala | Ile | Ala | Glu | Val | Leu | Leu | Asn | Ala | Arg | Cys | Asp | Leu | His | Ala |

|   |                                 |      |
|---|---------------------------------|------|
| 660   | 665                             | 670  |
| Asn Tyr His Gly Asp Thr Pro Leu                                 | His Ile Ala Ala Arg Glu Ser Tyr |      |
| 675   | 680                             | 685  |
| His Asp Cys Val Leu Leu Phe Leu Ser Arg Gly Ala Asn Pro Glu Leu |                                 |      |
| 690   | 695                             | 700  |
| Arg Asn Lys Glu Gly Asp Thr Ala Trp Asp Leu Thr Pro Glu Arg Ser |                                 |      |
| 705   | 710                             | 715  |
| Asp Val Trp Phe Ala Leu Gln Leu Asn Arg Lys Leu Arg Leu Gly Val |                                 |      |
| 725   | 730                             | 735  |
| Gly Asn Arg Ala Ile Arg Thr Glu Lys Ile Ile Cys Arg Asp Val Ala |                                 |      |
| 740   | 745                             | 750  |
| Arg Gly Tyr Glu Asn Val Pro Ile Pro Cys Val Asn Gly Val Asp Gly |                                 |      |
| 755   | 760                             | 765  |
| Glu Pro Cys Pro Glu Asp Tyr Lys Tyr Ile Ser Glu Asn Cys Glu Thr |                                 |      |
| 770   | 775                             | 780  |
| Ser Thr Met Asn Ile Asp Arg Asn Ile Thr His Leu Gln His Cys Thr |                                 |      |
| 785   | 790                             | 795  |
| Cys Val Asp Asp Cys Ser Ser Ser Asn Cys Leu Cys Gly Gln Leu Ser |                                 |      |
| 805   | 810                             | 815  |
| Ile Arg Cys Trp Tyr Asp Lys Asp Gly Arg Leu Leu Gln Glu Phe Asn |                                 |      |
| 820   | 825                             | 830  |
| Lys Ile Glu Pro Pro Leu Ile Phe Glu Cys Asn Gln Ala Cys Ser Cys |                                 |      |
| 835   | 840                             | 845  |
| Trp Arg Asn Cys Lys Asn Arg Val Val Gln Ser Gly Ile Lys Val Arg |                                 |      |
| 850   | 855                             | 860  |
| Leu Gln Leu Tyr Arg Thr Ala Lys Met Gly Trp Gly Val Arg Ala Leu |                                 |      |
| 865   | 870                             | 875  |
| Gln Thr Ile Pro Gln Gly Thr Phe Ile Cys Glu Tyr Val Gly Glu Leu |                                 |      |
| 885   | 890                             | 895  |
| Ile Ser Asp Ala Glu Ala Asp Val Arg Glu Asp Asp Ser Tyr Leu Phe |                                 |      |
| 900   | 905                             | 910  |
| Asp Leu Asp Asn Lys Asp Gly Glu Val Tyr Cys Ile Asp Ala Arg Tyr |                                 |      |
| 915   | 920                             | 925  |
| Tyr Gly Asn Ile Ser Arg Phe Ile Asn His Leu Cys Asp Pro Asn Ile |                                 |      |
| 930   | 935                             | 940  |
| Ile Pro Val Arg Val Phe Met Leu His Gln Asp Leu Arg Phe Pro Arg |                                 |      |
| 945   | 950                             | 955  |
| Ile Ala Phe Phe Ser Ser Arg Asp Ile Arg Thr Gly Glu Glu Leu Gly |                                 |      |
| 965   | 970                             | 975  |
| Phe Asp Tyr Gly Asp Arg Phe Trp Asp Ile Lys Ser Lys Tyr Phe Thr |                                 |      |
| 980   | 985                             | 990  |
| Cys Gln Cys Gly Ser Glu Lys Cys Lys His Ser Ala Glu Ala Ile Ala |                                 |      |
| 995   | 1000                            | 1005 |
| Leu Glu Gln Ser Arg Leu Ala Arg Leu Asp Pro His Pro Glu Leu Leu |                                 |      |
| 1010  | 1015                            | 1020 |
| Pro Glu Leu Gly Ser Leu Pro Pro Val Asn Thr                     |                                 |      |
| 1025  | 1030                            | 1035 |

&lt;210&gt; 3373

&lt;211&gt; 334

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(333)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3373

|   |
|---|
| Pro Asp Gly Arg Leu Ile Val Ser Cys Ser Glu Asp Lys Thr Ile Lys |
| 1 5 10 15   |
| Ile Trp Asp Thr Thr Asn Lys Gln Cys Val Asn Asn Phe Ser Asp Ser |

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<210> 3374
<211> 128
<212> PRT
<213> Homo sapiens
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<221> misc_feature
<222> (1)...(127)
<223> Xaa = any amino acid or nothing
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|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 3374 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Trp        | Leu | Tyr | Pro | Met | Ala | Leu | Ser | Ile | Leu | Asp | Ile | Lys | Met | Ser | Pro |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser        | Trp | Tyr | Phe | His | Met | Ala | Ile | Gly | Ile | Ile | Asn | Trp | Asn | Thr | Thr |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala        | Gly | Leu | Ser | Gly | Thr | Leu | Tyr | Pro | Lys | Val | Pro | Gln | Lys | Tyr | Ile |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu        | Phe | Asp | Ser | Val | Ile | Leu | Leu | Leu | Gly | Met | Leu | Arg | Lys | Ile | Arg |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln        | Val | Cys | Gln | Asn | Val | Tyr | Met | Lys | Gly | Cys | Ser | Pro | Ile | Thr | Leu |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Phe        | Lys | Ile | Val | His | Tyr | Trp | Pro | Gly | Ala | Val | Ala | His | Ala | Tyr | Asn |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Pro | Ser | Thr | Leu | Gly | Gly | Gln | Val | Gly | Trp | Gln | Ile | Thr | Xaa | Gly | Gln |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Glu | Phe | Glu | Thr | Ser | Leu | Asp | Tyr | Met | Val | Lys | Pro | His | Leu | Tyr |     |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     | 127 |     |  |  |

&lt;210&gt; 3375

&lt;211&gt; 351

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(349)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3375

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Pro | Thr | Gln | Gln | Ile | Leu | Ala | Phe | Pro | Glu | Gln | Thr | Asn | Thr | Lys |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Asp | Trp | Thr | Val | Thr | Pro | Glu | His | Val | Leu | Pro | Glu | Ser | Gln | Ser | Leu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Leu | Thr | Phe | Glu | Glu | Val | Ala | Met | Tyr | Phe | Ser | Gln | Glu | Glu | Trp | Glu |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Leu | Leu | Asp | Pro | Thr | Gln | Lys | Ala | Leu | Tyr | Asn | Asp | Val | Met | Gln | Glu |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Asn | Tyr | Glu | Thr | Val | Ile | Ser | Leu | Ala | Leu | Phe | Val | Leu | Pro | Lys | Pro |  |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Lys | Val | Ile | Ser | Cys | Leu | Glu | Gln | Gly | Glu | Glu | Pro | Trp | Val | Gln | Val |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ser | Pro | Glu | Phe | Lys | Asp | Ser | Ala | Gly | Lys | Ser | Pro | Thr | Gly | Leu | Lys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Lys | Asn | Asp | Thr | Glu | Asn | His | Gln | Pro | Val | Ser | Leu | Ser | Asp | Leu |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Ile | Gln | Ala | Ser | Ala | Gly | Val | Ile | Ser | Lys | Lys | Ala | Lys | Val | Lys |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |  |  |
| Val | Pro | Gln | Lys | Thr | Ala | Gly | Lys | Glu | Asn | His | Phe | Asp | Met | His | Arg |  |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Val | Gly | Lys | Trp | His | Gln | Asp | Phe | Pro | Val | Lys | Lys | Arg | Lys | Lys | Leu |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ser | Thr | Trp | Lys | Gln | Glu | Leu | Leu | Lys | Leu | Met | Asp | Arg | His | Lys | Lys |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Asp | Cys | Ala | Arg | Glu | Lys | Pro | Phe | Lys | Cys | Gln | Glu | Cys | Gly | Lys | Thr |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |  |  |
| Phe | Arg | Val | Ser | Ser | Asp | Leu | Ile | Lys | His | Gln | Arg | Ile | His | Thr | Glu |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Glu | Lys | Pro | Tyr | Lys | Cys | Gln | Gln | Cys | Asp | Lys | Arg | Phe | Arg | Trp | Ser |  |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |  |
| Ser | Asp | Leu | Asn | Lys | His | Leu | Thr | Thr | His | Gln | Gly | Ile | Lys | Pro | Tyr |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Lys | Cys | Ser | Trp | Gly | Gly | Lys | Ser | Phe | Ser | Gln | Asn | Thr | Asn | Leu | His |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Thr | His | Gln | Arg | Thr | His | Thr | Gly | Glu | Lys | Pro | Phe | Thr | Cys | His | Glu |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |  |  |
| Cys | Gly | Lys | Lys | Phe | Ser | Gln | Asn | Ser | His | Leu | Ile | Lys | His | Arg | Arg |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |  |  |
| Thr | His | Thr | Gly | Glu | Gln | Pro | Tyr | Thr | Cys | Ser | Ile | Cys | Arg | Arg | Asn |  |  |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |  |
| Phe | Ser | Arg | Arg | Ser | Ser | Leu | Leu | Arg | His | Gln | Lys | Leu | His | Leu | Xaa |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Arg | Glu | Ala | Cys | Pro | Val | Ser | His | Phe | Trp | Lys | Thr | Phe |     |     |     |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     | 349 |     |     |     |  |  |

&lt;210&gt; 3376

&lt;211&gt; 732

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(730)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3376

```

Ser Phe Glu Ser Pro Ala Pro Leu Pro Ser Thr Cys Phe Pro Gln Glu
 1          5          10          15
Arg Gln Asp Pro Gly Pro Cys Tyr Val Ser Gly Ala Met Ala Gly Leu
          20          25          30
Gly Pro Gly Val Gly Asp Ser Glu Gly Gly Pro Arg Pro Leu Phe Cys
          35          40          45
Arg Lys Gly Ala Leu Arg Gln Lys Val Val His Glu Val Lys Ser His
          50          55          60
Lys Phe Thr Ala Arg Phe Phe Lys Gln Pro Thr Phe Cys Ser His Cys
          65          70          75          80
Thr Asp Phe Ile Trp Gly Ile Gly Lys Gln Gly Leu Gln Cys Gln Val
          85          90          95
Cys Ser Phe Val Val His Arg Arg Cys His Glu Phe Val Thr Phe Glu
          100          105          110
Cys Pro Gly Ala Gly Lys Gly Pro Gln Thr Asp Asp Pro Arg Asn Lys
          115          120          125
His Lys Phe Arg Leu His Ser Tyr Ser Ser Pro Thr Phe Cys Asp His
          130          135          140
Cys Gly Ser Leu Leu Tyr Gly Leu Val His Gln Gly Met Lys Cys Ser
145          150          155          160
Cys Cys Glu Met Asn Val His Arg Arg Cys Val Arg Ser Val Pro Ser
          165          170          175
Leu Cys Gly Val Asp His Thr Glu Arg Arg Gly Arg Leu Gln Leu Glu
          180          185          190
Ile Arg Ala Pro Thr Ala Asp Glu Ile His Val Thr Val Gly Glu Ala
          195          200          205
Arg Asn Leu Ile Pro Met Asp Pro Asn Gly Leu Ser Asp Pro Tyr Val
          210          215          220
Lys Leu Lys Leu Ile Pro Asp Pro Arg Asn Leu Thr Lys Gln Lys Thr
225          230          235          240
Arg Thr Val Lys Ala Thr Leu Asn Pro Val Trp Asn Glu Thr Phe Val
          245          250          255
Phe Asn Leu Lys Pro Gly Asp Val Glu Arg Arg Leu Ser Val Glu Val
          260          265          270
Trp Asp Trp Asp Arg Thr Ser Arg Asn Asp Phe Met Gly Ala Met Ser
          275          280          285
Phe Gly Val Ser Glu Leu Leu Lys Ala Pro Val Asp Gly Trp Tyr Lys
          290          295          300
Leu Leu Asn Gln Glu Glu Gly Glu Tyr Tyr Asn Val Pro Val Ala Asp
305          310          315          320
Ala Asp Asn Cys Ser Leu Leu Gln Lys Phe Glu Ala Cys Asn Tyr Pro
          325          330          335
Leu Glu Leu Tyr Glu Arg Val Arg Met Gly Pro Ser Ser Ser Pro Ile
          340          345          350
Pro Ser Pro Ser Pro Ser Pro Thr Asp Pro Lys Arg Cys Phe Phe Gly
          355          360          365
Ala Ser Pro Gly Arg Leu His Ile Ser Asp Phe Ser Phe Leu Met Val
          370          375          380
Leu Gly Lys Gly Ser Phe Gly Lys Val Met Leu Ala Glu Arg Arg Gly
385          390          395          400
Ser Asp Glu Leu Tyr Ala Ile Lys Ile Leu Lys Lys Asp Val Ile Val

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Gln | Asp | Asp | Asp | Val | Asp | Cys | Thr | Leu | Val | Glu | Lys | Arg | Val | Leu | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Leu | Gly | Gly | Arg | Gly | Pro | Gly | Gly | Arg | Pro | His | Phe | Leu | Thr | Gln | Leu |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| His | Ser | Thr | Phe | Gln | Thr | Pro | Asp | Arg | Leu | Tyr | Phe | Val | Met | Glu | Tyr |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Val | Thr | Gly | Gly | Asp | Leu | Met | Tyr | His | Ile | Gln | Gln | Leu | Gly | Lys | Phe |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     | 480 |     |
| Lys | Glu | Pro | His | Ala | Ala | Phe | Tyr | Ala | Ala | Glu | Ile | Ala | Ile | Gly | Leu |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
| Phe | Phe | Leu | His | Asn | Gln | Gly | Ile | Ile | Tyr | Arg | Asp | Leu | Lys | Leu | Asp |
|     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |
| Asn | Val | Met | Leu | Asp | Ala | Glu | Gly | His | Ile | Lys | Ile | Thr | Asp | Phe | Gly |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Met | Cys | Lys | Glu | Asn | Val | Phe | Pro | Gly | Thr | Thr | Thr | Arg | Thr | Phe | Cys |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Gly | Thr | Pro | Asp | Tyr | Ile | Ala | Pro | Glu | Ile | Ile | Ala | Tyr | Gln | Pro | Tyr |
| 545 |     |     |     | 550 |     |     |     |     |     | 555 |     |     |     | 560 |     |
| Gly | Lys | Ser | Val | Asp | Trp | Trp | Ser | Phe | Gly | Val | Leu | Leu | Tyr | Glu | Met |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     | 575 |     |     |     |
| Leu | Ala | Gly | Gln | Pro | Pro | Phe | Asp | Gly | Glu | Asp | Glu | Glu | Glu | Leu | Phe |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |
| Gln | Ala | Ile | Met | Glu | Gln | Thr | Val | Thr | Tyr | Pro | Lys | Ser | Leu | Ser | Arg |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Glu | Ala | Val | Ala | Ile | Cys | Lys | Gly | Phe | Leu | Thr | Lys | His | Pro | Gly | Glu |
|     | 610 |     |     |     |     | 615 |     |     |     | 620 |     |     |     |     |     |
| Ala | Pro | Gly | Ala | Ser | Gly | Pro | Xaa | Trp | Gly | Asn | Leu | Thr | Ile | Arg | Ala |
| 625 |     |     |     | 630 |     |     |     |     |     | 635 |     |     |     | 640 |     |
| His | Gly | Phe | Phe | Pro | Leu | Gly | Phe | Asp | Trp | Glu | Arg | Leu | Glu | Arg | Leu |
|     |     |     | 645 |     |     |     |     | 650 |     |     |     | 655 |     |     |     |
| Glu | Ile | Pro | Ala | Ser | Phe | Ser | Arg | Pro | Arg | Pro | Cys | Gly | Pro | Gln | Arg |
|     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |     |
| Arg | Gly | Ile | Phe | Asp | Lys | Phe | Phe | Thr | Arg | Ala | Ala | Pro | Ala | Leu | Thr |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| Pro | Pro | Ala | Arg | Leu | Val | Leu | Asp | Ser | Ile | Asp | Gln | Ala | Asp | Phe | Gln |
|     | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Gly | Phe | Thr | Tyr | Val | Asn | Pro | Asp | Phe | Val | Gln | Pro | Asp | Ala | Arg | Ser |
| 705 |     |     |     | 710 |     |     |     |     |     | 715 |     |     |     | 720 |     |
| Pro | Thr | Ser | Thr | Val | His | Val | Pro | Val | Met |     |     |     |     |     |     |
|     |     |     | 725 |     |     |     |     | 730 |     |     |     |     |     |     |     |

&lt;210&gt; 3377

&lt;211&gt; 59

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3377

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ser | Met | Leu | Trp | Gly | Phe | Ser | Val | Phe | Arg | Arg | Ser | Trp | Ile | Leu |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Asn | Cys | Trp | Leu | Ser | Ser | Ser | Gln | Val | Gly | Ile | Ser | Ala | Ala | Cys | Lys |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Phe | Ser | Thr | Leu | Thr | His | Thr | His | Thr | His | Thr | His | Thr | His | Thr | Arg |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| His | Ala | Pro | Phe | Cys | Gly | Thr | Cys | Leu | Tyr | Tyr |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  |     |     |     | 59  |     |     |     |     |     |

&lt;210&gt; 3378

&lt;211&gt; 225



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(224)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3378

```

Phe Ser Lys Leu Ile Met Lys Thr Phe Ile Ile Gly Ile Ser Gly Val
 1           5           10           15
Thr Asn Ser Gly Lys Thr Thr Leu Ala Lys Asn Leu Gln Lys His Leu
          20           25           30
Pro Asn Cys Ser Val Ile Ser Gln Asp Asp Phe Phe Lys Pro Glu Ser
          35           40           45
Glu Ile Glu Thr Asp Lys Asn Gly Phe Leu Gln Tyr Asp Val Leu Glu
 50           55           60
Ala Leu Asn Met Glu Lys Met Met Ser Ala Ile Ser Cys Trp Met Glu
 65           70           75           80
Ser Ala Arg His Ser Val Val Ser Thr Asp Gln Glu Ser Ala Glu Glu
          85           90           95
Ile Pro Ile Leu Ile Ile Glu Gly Phe Leu Leu Phe Asn Tyr Lys Pro
          100          105          110
Leu Asp Thr Ile Trp Asn Arg Ser Tyr Phe Leu Thr Ile Pro Tyr Glu
          115          120          125
Glu Cys Lys Arg Arg Arg Ser Thr Arg Val Tyr Gln Pro Pro Asp Ser
          130          135          140
Pro Gly Tyr Phe Asp Gly His Val Trp Pro Met Tyr Leu Lys Tyr Arg
145           150           155           160
Gln Glu Met Gln Asp Ile Thr Trp Glu Val Val Tyr Leu Asp Gly Thr
          165          170          175
Lys Ser Glu Glu Asp Leu Phe Leu Gln Val Tyr Glu Asp Leu Ile Gln
          180          185          190
Glu Leu Ala Lys Gln Lys Cys Leu Gln Val Thr Ala Xaa Arg Arg Asn
          195          200          205
Thr Thr Asn Pro Ser Cys Lys Xaa Ile Arg Lys Leu Gln Gly Val Ile
210           215           220           224

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&lt;210&gt; 3379

&lt;211&gt; 225

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(224)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3379

```

Phe Ser Lys Leu Ile Met Lys Thr Phe Ile Ile Gly Ile Ser Gly Val
 1           5           10           15
Thr Asn Ser Gly Lys Thr Thr Leu Ala Lys Asn Leu Gln Lys His Leu
          20           25           30
Pro Asn Cys Ser Val Ile Ser Gln Asp Asp Phe Phe Lys Pro Glu Ser
          35           40           45
Glu Ile Glu Thr Asp Lys Asn Gly Phe Leu Gln Tyr Asp Val Leu Glu
 50           55           60
Ala Leu Asn Met Glu Lys Met Met Ser Ala Ile Ser Cys Trp Met Glu
 65           70           75           80
Ser Ala Arg His Ser Val Val Ser Thr Asp Gln Glu Ser Ala Glu Glu

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ile | Pro | Ile | Leu | Ile | Ile | Glu | Gly | Phe | Leu | Leu | Phe | Asn | Tyr | Lys | Pro |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Asp | Thr | Ile | Trp | Asn | Arg | Ser | Tyr | Phe | Leu | Thr | Ile | Pro | Tyr | Glu |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Glu | Cys | Lys | Arg | Arg | Arg | Ser | Thr | Arg | Val | Tyr | Gln | Pro | Pro | Asp | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Pro | Gly | Tyr | Phe | Asp | Gly | His | Val | Trp | Pro | Met | Tyr | Leu | Lys | Tyr | Arg |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gln | Glu | Met | Gln | Asp | Ile | Thr | Trp | Glu | Val | Val | Tyr | Leu | Asp | Gly | Thr |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Lys | Ser | Glu | Glu | Asp | Leu | Phe | Leu | Gln | Val | Tyr | Glu | Asp | Leu | Ile | Gln |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |  |  |
| Glu | Leu | Ala | Lys | Gln | Lys | Cys | Leu | Gln | Val | Thr | Ala | Xaa | Arg | Arg | Asn |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Thr | Thr | Asn | Pro | Ser | Cys | Lys | Xaa | Ile | Arg | Lys | Leu | Gln | Gly | Val | Ile |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     | 224 |  |  |

<210> 3380  
 <211> 216  
 <212> PRT  
 <213> Homo sapiens

<400> 3380

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Ala | Arg | Arg | Gly | Glu | Leu | Ala | Gly | Gly | Gly | Arg | Ala | Ser | Gly | Gly | Arg |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Ser | Gly | Gly | Asp | Gly | Gly | Gly | Gly | Gly | Gly | Ala | Arg | Ala | Pro | Glu | Gly |  |  |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |  |  |
| Val | Arg | Ala | Pro | Ala | Ala | Gly | Gln | Pro | Arg | Ala | Thr | Lys | Gly | Ala | Pro |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Pro | Pro | Pro | Gly | Thr | Pro | Pro | Pro | Ser | Pro | Met | Ser | Ser | Ala | Ile | Glu |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Arg | Lys | Ser | Leu | Asp | Pro | Ser | Glu | Glu | Pro | Val | Asp | Glu | Val | Leu | Gln |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Ile | Pro | Pro | Ser | Leu | Leu | Thr | Cys | Gly | Gly | Cys | Gln | Gln | Asn | Ile | Gly |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Asp | Arg | Tyr | Phe | Leu | Lys | Ala | Ile | Asp | Gln | Tyr | Trp | His | Glu | Asp | Cys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu | Ser | Cys | Asp | Leu | Cys | Gly | Cys | Arg | Leu | Gly | Glu | Val | Gly | Arg | Arg |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Leu | Tyr | Tyr | Lys | Leu | Gly | Arg | Lys | Leu | Cys | Arg | Arg | Asp | Tyr | Leu | Arg |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | Phe | Gly | Gln | Asp | Gly | Leu | Cys | Ala | Ser | Cys | Asp | Lys | Arg | Ile | Arg |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ala | Tyr | Glu | Met | Thr | Met | Arg | Val | Lys | Asp | Lys | Val | Tyr | His | Leu | Glu |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Cys | Phe | Lys | Cys | Ala | Ala | Cys | Gln | Lys | His | Phe | Cys | Val | Gly | Asp | Arg |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Tyr | Leu | Leu | Ile | Asn | Ser | Asp | Ile | Val | Cys | Glu | Gln | Asp | Ile | Tyr | Glu |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Trp | Thr | Lys | Ile | Asn | Gly | Met | Ile |     |     |     |     |     |     |     |     |  |  |
|     | 210 |     |     |     |     | 215 | 216 |     |     |     |     |     |     |     |     |  |  |

<210> 3381  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(157)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3381

```

Ser Leu Lys Leu Arg Lys Pro Pro Leu Pro Thr Asp Gly Val His Phe
 1          5          10          15
Val Phe Val Glu Ser Gln Leu Asp Phe Trp Gly Pro Gln Glu Met Leu
          20          25          30
Thr Gln Gln Gly Met Ala Leu Gln Asn Tyr Asp Asn Lys Leu Val Lys
          35          40          45
Cys Ile Glu Glu Leu Cys Gln Lys Gln Glu Glu Leu Cys Trp Gln Ile
          50          55          60
Gln Gln Glu Glu Asp Lys Lys Gln Arg Leu Gln Asn Glu Val Arg Gln
          65          70          75          80
Leu Thr Glu Lys Leu Ala Cys Val Asn Glu Lys Leu Ala Arg Val Asn
          85          90          95
Glu Asn Leu Ala Arg Lys Ile Ala Ser Cys Ser Lys Phe Tyr Gln Thr
          100          105          110
Ile Ala Glu Thr Glu Ala Thr Tyr Leu Lys Ile Leu Glu Ser Phe Xaa
          115          120          125
Thr Leu Leu Ser Val Arg Lys Arg Glu Ala Gly Asn Leu Thr Lys Ala
          130          135          140
Thr Ala Pro Asp Gln Lys Ser Ser Gly Gly Arg Asp Ser
145          150          155          157

```

&lt;210&gt; 3382

&lt;211&gt; 488

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(486)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3382

```

Gly Ile Arg Gly Lys Met Ala Asp Arg Gly Gly Val Gly Glu Ala Ala
 1          5          10          15
Ala Val Gly Ala Ser Pro Ala Ser Val Pro Gly Leu Asn Pro Thr Leu
          20          25          30
Gly Trp Arg Glu Arg Leu Arg Ala Gly Leu Ala Gly Thr Gly Ala Ser
          35          40          45
Leu Trp Phe Val Ala Gly Leu Gly Leu Leu Tyr Ala Leu Arg Ile Pro
          50          55          60
Leu Arg Leu Cys Glu Asn Leu Ala Ala Val Thr Val Phe Leu Asn Ser
          65          70          75          80
Leu Thr Pro Lys Phe Tyr Val Ala Leu Thr Gly Thr Ser Ser Leu Ile
          85          90          95
Ser Gly Leu Ile Phe Ile Phe Glu Trp Trp Tyr Phe His Lys His Gly
          100          105          110
Thr Ser Phe Ile Glu Gln Val Ser Val Ser His Leu Gln Pro Leu Met
          115          120          125
Gly Gly Thr Glu Ser Ser Ile Ser Glu Pro Gly Ser Pro Ser Arg Asn
          130          135          140
Arg Glu Asn Glu Thr Ser Arg Gln Asn Leu Ser Glu Cys Lys Val Trp
145          150          155          160
Arg Asn Pro Leu Asn Leu Phe Arg Gly Ala Glu Tyr Arg Arg Tyr Thr
          165          170          175
Trp Val Thr Gly Lys Glu Pro Leu Thr Tyr Tyr Asp Met Asn Leu Ser

```

```
<210> 3383
<211> 729
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(715)
<223> Xaa = any amino acid or nothing
```

|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 3383 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Arg        | Gly | Lys | Gly | Phe | Lys | Glu | Phe | Phe | Leu | Gly | Val | Cys | Gln | Thr | Phe |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile        | Pro | Cys | Leu | Cys | Ala | Glu | Gly | Ile | Gln | Leu | Gln | Phe | Phe | Cys | Ser |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Gly        | Ser | Gly | Ser | Ser | Pro | Leu | Leu | Lys | Asp | Leu | Glu | Ser | Met | Lys | Thr |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly        | Leu | Phe | Phe | Leu | Cys | Leu | Leu | Gly | Thr | Ala | Ala | Ala | Ile | Pro | Thr |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn        | Ala | Arg | Leu | Leu | Ser | Asp | His | Ser | Lys | Pro | Thr | Ala | Glu | Thr | Val |
| 65         |     |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |
| Ala        | Pro | Asp | Asn | Thr | Ala | Ile | Pro | Ser | Leu | Arg | Ala | Glu | Ala | Glu | Glu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Asn | Glu | Lys | Glu | Thr | Ala | Val | Ser | Thr | Glu | Asp | Asp | Ser | His | His | Lys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ala | Glu | Lys | Ser | Ser | Val | Leu | Lys | Ser | Lys | Glu | Glu | Ser | His | Glu | Gln |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ser | Ala | Glu | Gln | Gly | Lys | Ser | Ser | Ser | Gln | Glu | Leu | Gly | Ile | Glu | Gly |  |  |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Phe | Lys | Arg | Asp | Ser | Asp | Gly | Ser | Leu | Xaa | Val | Trp | Asn | Leu | Glu | Tyr |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gly | Thr | Asn | Leu | Lys | Gly | Thr | Leu | Asp | Ile | Lys | Glu | Asp | Met | Ser | Glu |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Pro | Gln | Glu | Lys | Lys | Leu | Ser | Glu | Asn | Thr | Asp | Phe | Leu | Ala | Pro | Gly |  |  |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Val | Ser | Ser | Phe | Thr | Asp | Ser | Asn | Gln | Gln | Glu | Ser | Ile | Thr | Lys | Arg |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Glu | Glu | Asn | Gln | Glu | Gln | Pro | Arg | Asn | Tyr | Ser | His | His | Gln | Leu | Asn |  |  |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Arg | Ser | Ser | Lys | His | Ser | Gln | Gly | Leu | Arg | Asp | Gln | Gly | Asn | Gln | Glu |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gln | Asp | Pro | Asn | Ile | Ser | Asn | Gly | Glu | Glu | Glu | Glu | Glu | Lys | Glu | Pro |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Gly | Glu | Val | Gly | Thr | His | Asn | Asp | Asn | Gln | Glu | Arg | Lys | Thr | Glu | Leu |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Pro | Arg | Glu | His | Ala | Asn | Ser | Lys | Gln | Glu | Glu | Asp | Asn | Thr | Gln | Ser |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Asp | Asp | Ile | Leu | Glu | Glu | Ser | Asp | Gln | Pro | Thr | Gln | Val | Ser | Lys | Met |  |  |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gln | Glu | Asp | Glu | Phe | Asp | Gln | Gly | Asn | Gln | Glu | Gln | Glu | Asp | Asn | Ser |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Asn | Ala | Glu | Met | Glu | Glu | Glu | Asn | Ala | Ser | Asn | Val | Asn | Lys | His | Ile |  |  |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |  |  |
| Gln | Glu | Thr | Glu | Trp | Gln | Ser | Gln | Glu | Gly | Lys | Thr | Gly | Leu | Glu | Ala |  |  |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Ile | Ser | Asn | His | Lys | Glu | Thr | Glu | Glu | Lys | Thr | Val | Ser | Glu | Ala | Leu |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Leu | Met | Glu | Pro | Thr | Asp | Asp | Gly | Asn | Thr | Thr | Pro | Arg | Asn | His | Gly |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Val | Asp | Asp | Asp | Gly | Asp | Asp | Asp | Gly | Asp | Asp | Gly | Gly | Thr | Asp | Gly |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Pro | Arg | His | Ser | Ala | Ser | Asp | Asp | Tyr | Phe | His | Pro | Lys | Pro | Gly | Leu |  |  |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |  |  |
| Phe | Trp | Glu | Ala | Glu | Arg | Ala | His | Ser | Ile | Ala | Tyr | Ser | Pro | Ser | Lys |  |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Leu | Arg | Glu | Gln | Arg | Glu | Lys | Val | His | Glu | Asn | Glu | Asn | Ile | Gly | Thr |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Thr | Glu | Pro | Gly | Glu | His | Gln | Glu | Ala | Lys | Lys | Ala | Glu | Asn | Ser | Ser |  |  |
|     |     | 450 |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |  |  |
| Asn | Glu | Glu | Glu | Thr | Ser | Ser | Glu | Gly | Asn | Met | Arg | Val | His | Ala | Val |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Asp | Ser | Cys | Met | Ser | Phe | Gln | Cys | Lys | Arg | Gly | His | Ile | Cys | Lys | Ala |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |  |  |
| Asp | Gln | Gln | Gly | Lys | Thr | Ser | Leu | Val | Ser | Cys | Gln | Asp | Pro | Val | Thr |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Cys | Pro | Pro | Thr | Lys | Pro | Leu | Asp | Gln | Val | Cys | Gly | Thr | Asp | Asn | Gln |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Thr | Tyr | Ala | Ser | Ser | Cys | His | Leu | Phe | Ala | Thr | Lys | Cys | Arg | Leu | Glu |  |  |
|     |     | 530 |     |     |     | 535 |     |     |     |     |     | 540 |     |     |     |  |  |
| Gly | Thr | Lys | Lys | Gly | His | Gln | Leu | Gln | Leu | Asp | Tyr | Phe | Gly | Ala | Ser |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Lys | Ser | Ile | Pro | Thr | Cys | Arg | Asp | Phe | Glu | Val | Ile | Gln | Phe | Pro | Leu |  |  |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |  |  |
| Arg | Met | Arg | Asp | Trp | Leu | Lys | Asn | Ile | Leu | Met | Gln | Leu | Tyr | Glu | Ala |  |  |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Asn | Ser | Glu | His | Ala | Gly | Tyr | Leu | Asn | Glu | Lys | Gln | Arg | Asn | Lys | Val |  |  |

```
<210> 3384
<211> 751
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(743)
<223> Xaa = any amino acid or nothing
```

5058



|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Phe Pro Ala Leu Leu Val Glu Lys Leu Leu Gln Glu His Leu Glu Glu |     |     |
| 290   | 295 | 300 |
| Gln Glu Val Ala Pro Pro Ala Leu Pro Pro Lys Pro Pro Lys Ala Lys |     |     |
| 305   | 310 | 315 |
| Pro Ala Ser Thr Val Pro Gly Pro Asn Gly Gly Ser Pro Pro Ser Leu |     |     |
| 325   | 330 | 335 |
| Gln Asp Ala Glu Trp Tyr Trp Gly Asp Ile Ser Arg Glu Glu Val Asn |     |     |
| 340   | 345 | 350 |
| Glu Lys Leu Arg Asp Thr Pro Asp Gly Thr Phe Leu Val Arg Asp Ala |     |     |
| 355   | 360 | 365 |
| Ser Ser Lys Ile Gln Gly Glu Tyr Thr Leu Thr Leu Arg Lys Gly Gly |     |     |
| 370   | 375 | 380 |
| Asn Asn Lys Leu Ile Lys Val Phe His Arg Asp Gly His Tyr Gly Phe |     |     |
| 385   | 390 | 395 |
| Ser Glu Pro Leu Thr Phe Cys Ser Val Val Asp Leu Ile Asn His Tyr |     |     |
| 405   | 410 | 415 |
| Arg His Glu Ser Leu Ala Gln Tyr Asn Ala Lys Leu Asp Thr Arg Leu |     |     |
| 420   | 425 | 430 |
| Leu Tyr Pro Val Ser Lys Tyr Gln Gln Asp Gln Ile Val Lys Glu Asp |     |     |
| 435   | 440 | 445 |
| Ser Val Glu Ala Val Gly Ala Gln Leu Lys Val Tyr His Gln Gln Tyr |     |     |
| 450   | 455 | 460 |
| Gln Asp Lys Ser Arg Glu Tyr Asp Gln Leu Tyr Glu Glu Tyr Thr Arg |     |     |
| 465   | 470 | 475 |
| Thr Ser Gln Glu Leu Gln Met Lys Arg Thr Ala Ile Glu Ala Phe Asn |     |     |
| 485   | 490 | 495 |
| Glu Thr Ile Lys Ile Phe Glu Glu Gln Gly Gln Thr Gln Glu Lys Cys |     |     |
| 500   | 505 | 510 |
| Ser Lys Glu Tyr Leu Glu Arg Phe Arg Arg Glu Gly Asn Gln Thr Lys |     |     |
| 515   | 520 | 525 |
| Glu Met Gln Arg Ile Leu Leu Asn Ser Glu Arg Leu Lys Ser Arg Ile |     |     |
| 530   | 535 | 540 |
| Ala Glu Ile His Glu Ser Arg Thr Lys Leu Glu Gln Gln Leu Leu Val |     |     |
| 545   | 550 | 555 |
| Pro Arg Ala Ser Asp Asn Lys Arg Asp Ile Asp Lys Pro His Xaa Thr |     |     |
| 565   | 570 | 575 |
| Ser Leu Lys Pro Asp Leu Met Gln Leu Arg Lys Ile Arg Asp Gln Tyr |     |     |
| 580   | 585 | 590 |
| Leu Val Trp Leu Thr Gln Lys Gly Ala Arg Gln Lys Lys Ile Asn Glu |     |     |
| 595   | 600 | 605 |
| Trp Leu Gly Ile Lys Asn Glu Thr Glu Asp Gln Tyr Ala Leu Met Glu |     |     |
| 610   | 615 | 620 |
| Asp Glu Asp Asp Leu Pro His His Glu Glu Arg Thr Trp Tyr Val Gly |     |     |
| 625   | 630 | 635 |
| Lys Ile Asn Arg Thr Gln Ala Glu Glu Met Leu Ser Gly Lys Arg Asp |     |     |
| 645   | 650 | 655 |
| Gly Thr Phe Leu Ile Arg Glu Ser Ser Gln Arg Gly Cys Tyr Ala Cys |     |     |
| 660   | 665 | 670 |
| Ser Val Val Val Asp Gly Asp Thr Lys His Cys Val Ile Tyr Arg Thr |     |     |
| 675   | 680 | 685 |
| Ala Thr Gly Phe Gly Phe Ala Glu Pro Tyr Asn Leu Tyr Gly Ser Leu |     |     |
| 690   | 695 | 700 |
| Lys Glu Leu Val Leu His Tyr Gln His Ala Ser Leu Val Gln His Asn |     |     |
| 705   | 710 | 715 |
| Asp Ala Leu Thr Val Thr Leu Ala His Pro Val Arg Ala Pro Gly Pro |     |     |
| 725   | 730 | 735 |
| Gly Pro Pro Pro Ala Ala Arg                                     |     |     |
| 740   | 743 |     |

&lt;210&gt; 3385

&lt;211&gt; 1253

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1252)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3385

```

Thr Arg Asp Val Asn Ser Trp Lys Glu Leu Cys Phe Asn His Tyr Asn
 1          5          10          15
Lys Glu Thr Thr Asn Cys Tyr Arg Thr Thr Arg Lys Trp Thr Asn Tyr
          20          25          30
Lys Ile Ile Phe Leu Gly Pro Phe Arg Glu Leu Arg Ser Gln Gly Asn
          35          40          45
Gln Val Ile Leu Asn Leu Gly Lys Glu Arg Cys Gln Leu Arg Glu Thr
          50          55          60
Gly Leu Lys Leu Tyr Leu Pro Gly Met Asp Ser Ala Arg His His Ile
          65          70          75          80
Ser His Ser Thr Ser Ala Gly Pro Ile Pro Ser Gln Lys Glu Glu Glu
          85          90          95
Met Thr Glu Ser Gln Gly Thr Val Thr Phe Lys Asp Val Ala Ile Asp
          100          105          110
Phe Thr Gln Glu Glu Trp Lys Arg Leu Asp Pro Ala Gln Arg Lys Leu
          115          120          125
Tyr Arg Asn Val Met Leu Xaa Asn Tyr Asn Asn Leu Ile Thr Val Gly
          130          135          140
Tyr Pro Phe Thr Lys Pro Asp Val Ile Phe Lys Leu Glu Gln Glu Glu
          145          150          155          160
Lys Pro Trp Val Met Glu Glu Glu Val Leu Arg Arg His Trp Gln Gly
          165          170          175
Glu Ile Trp Gly Val Asp Glu His Gln Lys Asn Gln Asp Arg Leu Leu
          180          185          190
Arg Gln Val Glu Val Lys Phe Gln Lys Thr Leu Thr Glu Glu Lys Gly
          195          200          205
Asn Glu Cys Gln Lys Lys Phe Ala Asn Val Phe Pro Leu Asn Ser Asp
          210          215          220
Phe Phe Pro Ser Arg His Asn Leu Tyr Glu Tyr Asp Leu Phe Gly Lys
          225          230          235          240
Cys Leu Glu His Asn Phe Asp Cys His Asn Asn Val Lys Cys Leu Met
          245          250          255
Arg Lys Glu His Cys Glu Tyr Asn Glu Pro Val Lys Ser Tyr Gly Asn
          260          265          270
Ser Ser Ser His Phe Val Ile Thr Pro Phe Lys Cys Asn His Cys Gly
          275          280          285
Lys Gly Phe Asn Gln Thr Leu Asp Leu Ile Arg His Leu Arg Ile His
          290          295          300
Thr Gly Glu Lys Pro Tyr Glu Cys Ser Asn Cys Arg Lys Ala Phe Ser
          305          310          315          320
His Lys Glu Lys Leu Ile Lys His Tyr Lys Ile His Ser Arg Glu Gln
          325          330          335
Ser Tyr Lys Cys Asn Glu Cys Gly Lys Ala Phe Ile Lys Met Ser Asn
          340          345          350
Leu Ile Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Ala Cys
          355          360          365
Lys Glu Cys Glu Lys Ser Phe Ser Gln Lys Ser Asn Leu Ile Asp His
          370          375          380
Glu Lys Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly
          385          390          395          400
Lys Ala Phe Ser Gln Lys Gln Ser Leu Ile Ala His Gln Lys Val His
          405          410          415
Thr Gly Glu Lys Pro Tyr Ala Cys Asn Glu Cys Gly Lys Ala Phe Pro
          420          425          430
Arg Ile Ala Ser Leu Ala Leu His Met Arg Ser His Thr Gly Glu Lys

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|   |     |     |
|---|-----|-----|
| 435   | 440 | 445 |
| Pro Tyr Lys Cys Asp Lys Cys Gly Lys Ala Phe Ser Gln Phe Ser Met |     |     |
| 450   | 455 | 460 |
| Leu Ile Ile His Val Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys |     |     |
| 465   | 470 | 475 |
| Asn Glu Cys Gly Lys Ala Phe Ser Gln Ser Ser Ala Leu Thr Val His |     | 480 |
| 485   | 490 | 495 |
| Met Arg Ser His Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Arg |     |     |
| 500   | 505 | 510 |
| Lys Ala Phe Ser His Lys Lys Asn Phe Ile Thr His Gln Lys Ile His |     |     |
| 515   | 520 | 525 |
| Thr Arg Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ile |     |     |
| 530   | 535 | 540 |
| Gln Met Ser Asn Leu Val Arg His Gln Arg Ile His Thr Gly Glu Lys |     |     |
| 545   | 550 | 555 |
| Pro Tyr Ile Cys Lys Glu Cys Gly Lys Ala Phe Ser Gln Lys Ser Asn |     | 560 |
| 565   | 570 | 575 |
| Leu Ile Ala His Glu Lys Ile His Ser Gly Glu Lys Pro Tyr Glu Cys |     |     |
| 580   | 585 | 590 |
| Asn Glu Cys Gly Lys Ala Phe Ser Gln Lys Gln Asn Phe Ile Thr His |     |     |
| 595   | 600 | 605 |
| Gln Lys Val His Thr Gly Glu Lys Pro Tyr Asp Cys Asn Glu Cys Gly |     |     |
| 610   | 615 | 620 |
| Lys Ala Phe Ser Gln Ile Ala Ser Leu Thr Leu His Leu Arg Ser His |     |     |
| 625   | 630 | 635 |
| Thr Gly Glu Lys Pro Tyr Glu Cys Asp Lys Cys Gly Lys Ala Phe Ser |     | 640 |
| 645   | 650 | 655 |
| Gln Cys Ser Leu Leu Asn Leu His Met Arg Ser His Thr Gly Glu Lys |     |     |
| 660   | 665 | 670 |
| Pro Tyr Val Cys Asn Glu Cys Gly Lys Ala Phe Ser Gln Arg Thr Phe |     |     |
| 675   | 680 | 685 |
| Leu Ile Val His Met Arg Gly His Thr Gly Glu Lys Pro Tyr Glu Cys |     |     |
| 690   | 695 | 700 |
| Asn Glu Cys Gly Lys Ala Phe Ser Gln Ser Ser Ser Leu Thr Ile His |     |     |
| 705   | 710 | 715 |
| Ile Arg Gly His Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Arg |     | 720 |
| 725   | 730 | 735 |
| Lys Ala Phe Ser His Lys Lys Asn Phe Ile Thr His Gln Lys Ile His |     |     |
| 740   | 745 | 750 |
| Thr Arg Glu Lys Pro Phe Lys Cys Asn His Cys Gly Lys Gly Phe Asn |     |     |
| 755   | 760 | 765 |
| Gln Thr Leu Asp Leu Ile Arg His Leu Arg Ile His Thr Gly Glu Lys |     |     |
| 770   | 775 | 780 |
| Pro Tyr Glu Cys Ser Asn Cys Arg Lys Ala Phe Ser His Lys Glu Lys |     |     |
| 785   | 790 | 795 |
| Leu Ile Lys His Tyr Lys Ile His Ser Arg Glu Gln Ser Tyr Lys Cys |     | 800 |
| 805   | 810 | 815 |
| Asn Glu Cys Gly Lys Ala Phe Ile Lys Met Ser Asn Leu Ile Arg His |     |     |
| 820   | 825 | 830 |
| Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Ala Cys Lys Glu Cys Glu |     |     |
| 835   | 840 | 845 |
| Lys Ser Phe Ser Gln Lys Ser Asn Leu Ile Asp His Glu Lys Ile His |     |     |
| 850   | 855 | 860 |
| Thr Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ser |     |     |
| 865   | 870 | 875 |
| Gln Lys Gln Ser Leu Ile Ala His Gln Lys Val His Thr Gly Glu Lys |     | 880 |
| 885   | 890 | 895 |
| Pro Tyr Ala Cys Asn Glu Cys Gly Lys Ala Phe Pro Arg Ile Ala Ser |     |     |
| 900   | 905 | 910 |
| Leu Ala Leu His Met Arg Ser His Thr Gly Glu Lys Pro Tyr Lys Cys |     |     |
| 915   | 920 | 925 |
| Asp Lys Cys Gly Lys Ala Phe Ser Gln Phe Ser Met Leu Ile Ile His |     |     |
| 930   | 935 | 940 |
| Val Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly |     |     |

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945          950          955          960
Lys Ala Phe Ser Gln Ser Ser Ala Leu Thr Val His Met Arg Ser His
          965          970          975
Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Arg Lys Ala Phe Ser
          980          985          990
His Lys Lys Asn Phe Ile Thr His Gln Lys Ile His Thr Arg Glu Lys
          995          1000          1005
Pro Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ile Gln Met Ser Asn
          1010          1015          1020
Leu Val Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Ile Cys
1025          1030          1035          1040
Lys Glu Cys Gly Lys Ala Phe Ser Gln Lys Ser Asn Leu Ile Ala His
          1045          1050          1055
Glu Lys Ile His Ser Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly
          1060          1065          1070
Lys Ala Phe Ser Gln Lys Gln Asn Phe Ile Thr His Gln Lys Val His
          1075          1080          1085
Thr Gly Glu Lys Pro Tyr Asp Cys Asn Glu Cys Gly Lys Ala Phe Ser
          1090          1095          1100
Gln Ile Ala Ser Leu Thr Leu His Leu Arg Ser His Thr Gly Glu Lys
1105          1110          1115          1120
Pro Tyr Glu Cys Asp Lys Cys Gly Lys Ala Phe Ser Gln Cys Ser Leu
          1125          1130          1135
Leu Asn Leu His Met Arg Ser His Thr Gly Glu Lys Pro Tyr Val Cys
          1140          1145          1150
Asn Glu Cys Gly Lys Ala Phe Ser Gln Arg Thr Phe Leu Ile Val His
          1155          1160          1165
Met Arg Gly His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Glu Cys Gly
          1170          1175          1180
Lys Ala Phe Ser Gln Ser Ser Ser Leu Thr Ile His Ile Arg Gly His
1185          1190          1195          1200
Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Arg Lys Ala Phe Ser
          1205          1210          1215
His Lys Lys Asn Phe Ile Thr His Gln Lys Ile His Thr Arg Glu Asn
          1220          1225          1230
Pro Leu Ser Val Ile Ile Val Glu Lys Ala Ser Ile Arg Leu Trp Thr
          1235          1240          1245
Ser Ser Asp Ile
          1250          1252

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&lt;210&gt; 3386

&lt;211&gt; 278

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(276)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3386

```

Trp Asp Asp Tyr Pro Gln Gly Ala Leu Arg Arg Arg Glu Ala Ala Glu
  1          5          10          15
Gly Leu His Phe Leu Gly Pro Pro Gly Arg Val Arg Gly Gln Leu Arg
          20          25          30
Gly Ile Thr Gly Pro Ala Trp Tyr Cys His Ser Pro Ser His Ser Leu
          35          40          45
Leu Ser Ala Phe Cys His Leu Pro Thr Pro Ser Arg Cys Pro Ala Met
          50          55          60
Ala Arg Pro Pro Val Pro Gly Ser Val Val Val Pro Asn Trp His Glu
          65          70          75          80
Ser Arg Arg Gly Gln Gly Val Pro Gly Leu His Ser Ala Gln Glu Pro

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |  |
| Pro | Ala | Gly | Val | Trp | Ala | Ala | Xaa | Ala | Ala | Ser | Ala | Ala | Ala | Ala | Leu |  |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |  |
| Ser | Ile | Asp | Thr | Ala | Ser | Tyr | Lys | Ile | Phe | Val | Ser | Gly | Lys | Ser | Gly |  |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |  |
| Val | Gly | Lys | Thr | Ala | Leu | Val | Ala | Lys | Leu | Ala | Gly | Leu | Glu | Val | Pro |  |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |
| Val | Val | His | His | Glu | Thr | Thr | Gly | Ile | Gln | Thr | Thr | Val | Val | Phe | Trp |  |  |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |  |  |  |  |
| Pro | Ala | Lys | Leu | Gln | Ala | Ser | Ser | Arg | Val | Val | Met | Phe | Arg | Phe | Glu |  |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |  |
| Phe | Trp | Asp | Cys | Gly | Glu | Ser | Ala | Leu | Lys | Lys | Phe | Asp | His | Met | Leu |  |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |  |  |  |
| Leu | Ala | Cys | Met | Glu | Asn | Thr | Asp | Ala | Phe | Leu | Phe | Leu | Phe | Ser | Phe |  |  |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |  |  |
| Thr | Asp | Arg | Ala | Ser | Phe | Glu | Asp | Leu | Pro | Gly | Gln | Leu | Ala | Arg | Ile |  |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |  |
| Ala | Gly | Glu | Ala | Pro | Gly | Val | Val | Arg | Met | Val | Ile | Gly | Ser | Lys | Phe |  |  |  |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |  |  |  |  |
| Asp | Gln | Tyr | Met | His | Thr | Asp | Val | Pro | Glu | Arg | Asp | Leu | Thr | Ala | Phe |  |  |  |  |
|     |     |     | 245 |     |     | 250 |     |     |     |     | 255 |     |     |     |     |  |  |  |  |
| Arg | Gln | Ala | Trp | Glu | Leu | Pro | Leu | Leu | Arg | Val | Lys | Ser | Val | Pro | Gly |  |  |  |  |
|     |     | 260 |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |  |  |  |  |
| Arg | Arg | Leu | Gly |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|     |     | 275 | 276 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |

&lt;210&gt; 3387

&lt;211&gt; 511

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(510)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3387

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Gly | Ser | Ser | Pro | Asp | Pro | Ala | Ser | Leu | Ile | Thr | Met | Lys | Asn | Gln | Asp |  |  |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |  |  |
| Lys | Lys | Asn | Gly | Ala | Ala | Lys | Gln | Ser | Asn | Pro | Lys | Ser | Ser | Pro | Gly |  |  |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |  |  |
| Gln | Pro | Glu | Ala | Gly | Pro | Glu | Gly | Ala | Gln | Glu | Arg | Pro | Ser | Gln | Ala |  |  |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |  |  |
| Ala | Pro | Ala | Val | Glu | Ala | Glu | Gly | Pro | Gly | Ser | Ser | Gln | Ala | Pro | Arg |  |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |  |  |
| Lys | Pro | Glu | Gly | Ala | Gln | Ala | Arg | Thr | Ala | Gln | Ser | Gly | Ala | Leu | Arg |  |  |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |  |  |  |  |
| Asp | Val | Ser | Glu | Glu | Leu | Ser | Arg | Gln | Leu | Glu | Asp | Ile | Leu | Ser | Thr |  |  |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |  |  |  |  |
| Tyr | Cys | Val | Asp | Asn | Asn | Gln | Gly | Gly | Pro | Gly | Glu | Asp | Gly | Ala | Gln |  |  |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |     |  |  |  |  |
| Gly | Glu | Pro | Ala | Glu | Pro | Glu | Asp | Ala | Glu | Lys | Ser | Arg | Thr | Tyr | Val |  |  |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |  |  |
| Ala | Arg | Asn | Gly | Glu | Pro | Glu | Pro | Thr | Pro | Val | Val | Asn | Gly | Glu | Lys |  |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |
| Glu | Pro | Ser | Lys | Gly | Asp | Pro | Asn | Thr | Glu | Glu | Ile | Arg | Gln | Ser | Asp |  |  |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |  |  |  |  |
| Glu | Val | Gly | Asp | Arg | Asp | His | Arg | Arg | Pro | Gln | Glu | Lys | Lys | Lys | Ala |  |  |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |  |  |
| Lys | Gly | Leu | Gly | Lys | Glu | Ile | Thr | Leu | Leu | Met | Gln | Thr | Leu | Asn | Thr |  |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |  |  |  |  |
| Leu | Ser | Thr | Pro | Glu | Glu | Lys | Leu | Ala | Ala | Leu | Cys | Lys | Lys | Tyr | Ala |  |  |  |  |

|   |                                     |     |
|---|-------------------------------------|-----|
| 195   | 200                                 | 205 |
| Glu Leu Leu Glu Glu His Arg                                     | Asn Ser Gln Lys Gln Met Lys Leu Leu |     |
| 210   | 215                                 | 220 |
| Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys Asp His Leu Arg Gly |                                     |     |
| 225   | 230                                 | 235 |
| Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys Leu Glu Ser Leu Cys |                                     | 240 |
| 245   | 250                                 | 255 |
| Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys Glu Glu Gly Val Gln |                                     |     |
| 260   | 265                                 | 270 |
| Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu Val Thr Ser His Phe |                                     |     |
| 275   | 280                                 | 285 |
| Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met Glu Gln His Asn Glu |                                     |     |
| 290   | 295                                 | 300 |
| Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu Leu Ala Glu Arg Leu |                                     |     |
| 305   | 310                                 | 315 |
| Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu Glu His Ile Asp Lys |                                     | 320 |
| 325   | 330                                 | 335 |
| Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu Val Asp Ala Lys Leu |                                     |     |
| 340   | 345                                 | 350 |
| Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu Glu Arg His Gln Arg |                                     |     |
| 355   | 360                                 | 365 |
| Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu Ser Gln Arg Met Cys |                                     |     |
| 370   | 375                                 | 380 |
| Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys Gln Gln Leu Ala Leu |                                     |     |
| 385   | 390                                 | 395 |
| Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr Leu Ser Lys Ser Ser |                                     |     |
| 405   | 410                                 | 415 |
| Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu Lys Met Thr Lys Lys |                                     |     |
| 420   | 425                                 | 430 |
| Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr Arg Ser Arg Trp Glu |                                     |     |
| 435   | 440                                 | 445 |
| Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu Glu Lys Thr Val Arg |                                     |     |
| 450   | 455                                 | 460 |
| Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile Gln Arg Leu Glu Lys |                                     |     |
| 465   | 470                                 | 475 |
| Leu Cys Arg Ala Leu Gln Thr Gly Ala Gln Xaa Pro Val Arg Gly Gln |                                     | 480 |
| 485   | 490                                 | 495 |
| Arg Trp Gly Ser His Arg Thr Ser Ala Val Arg Ile Phe Ser         |                                     |     |
| 500   | 505                                 | 510 |

&lt;210&gt; 3388

&lt;211&gt; 1035

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (1033)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3388

|   |    |
|---|----|
| Ala Arg Pro Glu Val Pro Ala Pro Pro Ala Trp Leu Ser Arg Arg Gly |    |
| 1   | 5  |
| Ala Ala Lys Met Gly Asp Lys Lys Asp Asp Lys Asp Ser Pro Lys Lys |    |
| 20  | 25 |
| Asn Lys Gly Lys Glu Arg Arg Asp Leu Asp Asp Leu Lys Lys Glu Val |    |
| 35  | 40 |
| Ala Met Thr Glu His Lys Met Ser Val Glu Glu Val Cys Arg Lys Tyr |    |
| 50  | 55 |
| Asn Thr Asp Cys Val Gln Gly Leu Thr His Ser Lys Ala Gln Glu Ile |    |
| 65  | 70 |
| Leu Ala Arg Asp Gly Pro Asn Ala Leu Thr Pro Pro Pro Thr Thr Pro |    |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 85  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 95  |
| Glu | Trp | Val | Lys | Phe | Cys | Arg | Gln | Leu | Phe | Gly | Gly | Phe | Ser | Ile | Leu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 100 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 105 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 110 |
| Leu | Trp | Ile | Gly | Ala | Ile | Leu | Cys | Phe | Leu | Ala | Tyr | Gly | Ile | Gln | Ala |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 115 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 120 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 125 |
| Gly | Thr | Glu | Asp | Asp | Pro | Ser | Gly | Asp | Asn | Leu | Tyr | Leu | Gly | Ile | Val |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 130 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 135 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 140 |
| Leu | Ala | Ala | Val | Val | Ile | Ile | Thr | Gly | Cys | Phe | Ser | Tyr | Tyr | Gln | Glu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 145 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 150 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 155 |
| Ala | Lys | Ser | Ser | Lys | Ile | Met | Glu | Ser | Phe | Lys | Asn | Met | Val | Pro | Gln |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 165 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 170 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 175 |
| Gln | Ala | Leu | Val | Ile | Arg | Glu | Gly | Glu | Lys | Met | Gln | Val | Asn | Ala | Glu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 180 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 185 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 190 |
| Glu | Val | Val | Val | Gly | Asp | Leu | Val | Glu | Ile | Lys | Gly | Gly | Asp | Arg | Val |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 195 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 205 |
| Pro | Ala | Asp | Leu | Arg | Ile | Ile | Ser | Ala | His | Gly | Cys | Lys | Val | Asp | Asn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 210 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 215 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 220 |
| Ser | Ser | Leu | Thr | Gly | Glu | Ser | Glu | Pro | Gln | Thr | Arg | Ser | Pro | Asp | Cys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 225 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 230 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 235 |
| Thr | His | Glu | Asn | Pro | Leu | Lys | Thr | Arg | Asn | Ile | Thr | Phe | Phe | Ser | Asn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 245 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 250 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 255 |
| Asn | Phe | Val | Glu | Gly | Thr | Ala | Arg | Gly | Val | Val | Val | Ala | Thr | Gly | Asp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 260 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 265 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 270 |
| Arg | Thr | Val | Met | Gly | Arg | Ile | Ala | Thr | Leu | Ala | Ser | Gly | Leu | Glu | Val |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 275 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 280 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 285 |
| Gly | Lys | Thr | Pro | Ile | Ala | Ile | Glu | Ile | Glu | His | Phe | Ile | Gln | Leu | Ile |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 290 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 295 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 300 |
| Thr | Gly | Val | Ala | Val | Phe | Leu | Gly | Val | Ser | Phe | Phe | Ile | Leu | Ser | Leu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 305 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 310 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 315 |
| Ile | Leu | Gly | Tyr | Thr | Trp | Leu | Glu | Ala | Val | Ile | Phe | Leu | Ile | Gly | Ile |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 325 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 330 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 335 |
| Ile | Val | Ala | Asn | Val | Pro | Glu | Gly | Leu | Leu | Ala | Thr | Val | Thr | Val | Cys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 340 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 345 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 350 |
| Leu | Thr | Leu | Thr | Ala | Lys | Arg | Met | Ala | Arg | Lys | Asn | Cys | Leu | Val | Lys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 355 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 360 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 365 |
| Asn | Leu | Glu | Ala | Val | Glu | Thr | Leu | Gly | Ser | Thr | Ser | Thr | Ile | Cys | Ser |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 370 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 375 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 380 |
| Asp | Lys | Thr | Gly | Thr | Leu | Thr | Gln | Asn | Arg | Met | Thr | Val | Ala | His | Met |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 385 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 390 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 395 |
| Trp | Phe | Asp | Asn | Gln | Ile | His | Glu | Ala | Asp | Thr | Thr | Glu | Asp | Gln | Ser |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 405 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 410 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 415 |
| Gly | Thr | Ser | Phe | Asp | Lys | Ser | Ser | His | Thr | Trp | Val | Ala | Leu | Phe | Xaa |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 420 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 425 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 430 |
| His | Leu | Leu | Gly | Phe | Cys | Asn | Arg | Pro | Val | Phe | Lys | Gly | Gly | Gln | Asp |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 440 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 445 |
| Asn | Ile | Pro | Val | Leu | Lys | Arg | Asp | Val | Ala | Gly | Asp | Ala | Ser | Glu | Ser |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 450 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 455 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 460 |
| Ala | Leu | Leu | Lys | Cys | Ile | Glu | Leu | Ser | Ser | Gly | Ser | Val | Lys | Leu | Met |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 465 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 470 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 475 |
| Arg | Glu | Arg | Asn | Lys | Lys | Val | Ala | Glu | Ile | Pro | Phe | Asn | Ser | Thr | Asn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 485 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 490 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 495 |
| Lys | Tyr | Gln | Leu | Ser | Ile | His | Glu | Thr | Glu | Asp | Pro | Asn | Asp | Asn | Arg |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 505 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 510 |
| Tyr | Leu | Leu | Val | Met | Lys | Gly | Ala | Pro | Glu | Arg | Ile | Leu | Asp | Arg | Cys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 515 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 520 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 525 |
| Ser | Thr | Ile | Leu | Leu | Gln | Gly | Lys | Glu | Gln | Pro | Leu | Asp | Glu | Glu | Met |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 530 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 535 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 540 |
| Lys | Glu | Ala | Phe | Gln | Asn | Ala | Tyr | Leu | Glu | Leu | Gly | Gly | Leu | Gly | Glu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 545 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 550 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 555 |
| Arg | Val | Leu | Gly | Phe | Cys | His | Tyr | Tyr | Leu | Pro | Glu | Glu | Gln | Phe | Pro |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 565 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 570 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 575 |
| Lys | Gly | Phe | Ala | Phe | Asp | Cys | Asp | Asp | Val | Asn | Phe | Thr | Thr | Asp | Asn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 580 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 585 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 590 |
| Leu | Cys | Phe | Val | Gly | Leu | Met | Ser | Met | Ile | Gly | Pro | Pro | Arg | Ala | Ala |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |

|   |      |      |
|---|------|------|
| 595   | 600  | 605  |
| Val Pro Asp Ala Val Gly Lys Cys Arg Ser Ala Gly Ile Lys Val Ile |      |      |
| 610   | 615  | 620  |
| Met Val Thr Gly Asp His Pro Ile Thr Ala Lys Ala Ile Ala Lys Gly |      |      |
| 625   | 630  | 635  |
| Val Gly Ile Ile Phe Glu Gly Asn Glu Thr Val Glu Asp Ile Ala Ala |      |      |
| 645   | 650  | 655  |
| Arg Leu Asn Ile Pro Val Ser Gln Val Asn Pro Arg Asp Ala Lys Ala |      |      |
| 660   | 665  | 670  |
| Cys Val Ile His Gly Thr Asp Leu Lys Asp Phe Thr Ser Glu Gln Ile |      |      |
| 675   | 680  | 685  |
| Asp Glu Ile Leu Gln Asn His Thr Glu Ile Val Phe Ala Arg Thr Ser |      |      |
| 690   | 695  | 700  |
| Pro Gln Gln Lys Leu Ile Ile Val Glu Gly Cys Gln Arg Gln Gly Ala |      |      |
| 705   | 710  | 715  |
| Ile Val Ala Val Thr Gly Asp Gly Val Asn Asp Ser Pro Ala Leu Lys |      |      |
| 725   | 730  | 735  |
| Lys Ala Asp Ile Gly Val Ala Met Gly Ile Ala Gly Ser Asp Val Ser |      |      |
| 740   | 745  | 750  |
| Lys Gln Ala Ala Asp Met Ile Leu Leu Asp Asp Asn Phe Ala Ser Ile |      |      |
| 755   | 760  | 765  |
| Val Thr Gly Val Glu Glu Gly Arg Leu Ile Phe Asp Asn Leu Lys Lys |      |      |
| 770   | 775  | 780  |
| Ser Ile Ala Tyr Thr Leu Thr Ser Asn Ile Pro Glu Ile Thr Pro Phe |      |      |
| 785   | 790  | 795  |
| Leu Leu Phe Ile Met Ala Asn Ile Pro Leu Pro Leu Gly Thr Ile Thr |      |      |
| 805   | 810  | 815  |
| Ile Leu Cys Ile Asp Leu Gly Thr Asp Met Val Pro Ala Ile Ser Leu |      |      |
| 820   | 825  | 830  |
| Ala Tyr Glu Ala Ala Glu Ser Asp Ile Met Lys Arg Gln Pro Arg Asn |      |      |
| 835   | 840  | 845  |
| Pro Arg Thr Asp Lys Leu Val Asn Glu Arg Leu Ile Ser Met Ala Tyr |      |      |
| 850   | 855  | 860  |
| Gly Gln Ile Gly Met Ile Gln Ala Leu Gly Gly Phe Phe Ser Tyr Phe |      |      |
| 865   | 870  | 875  |
| Val Ile Leu Ala Glu Asn Gly Phe Leu Pro Gly Asn Leu Val Gly Ile |      |      |
| 885   | 890  | 895  |
| Arg Leu Asn Trp Asp Asp Arg Thr Val Asn Asp Leu Glu Asp Ser Tyr |      |      |
| 900   | 905  | 910  |
| Gly Gln Gln Trp Thr Tyr Glu Gln Arg Lys Val Val Glu Phe Thr Cys |      |      |
| 915   | 920  | 925  |
| His Thr Ala Phe Phe Val Ser Ile Val Val Val Gln Trp Ala Asp Leu |      |      |
| 930   | 935  | 940  |
| Ile Ile Cys Lys Thr Arg Arg Asn Ser Val Phe Gln Gln Gly Met Lys |      |      |
| 945   | 950  | 955  |
| Asn Lys Ile Leu Ile Phe Gly Leu Phe Glu Thr Ala Leu Ala Ala     |      |      |
| 965   | 970  | 975  |
| Phe Leu Ser Tyr Cys Pro Gly Met Asp Val Ala Leu Arg Met Tyr Pro |      |      |
| 980   | 985  | 990  |
| Leu Lys Pro Ser Trp Trp Phe Cys Ala Phe Pro Tyr Ser Phe Leu Ile |      |      |
| 995   | 1000 | 1005 |
| Phe Val Tyr Asp Glu Ile Arg Lys Leu Ile Leu Arg Arg Asn Pro Gly |      |      |
| 1010  | 1015 | 1020 |
| Gly Trp Val Glu Lys Glu Thr Tyr Tyr                             |      |      |
| 1025  | 1030 | 1033 |

&lt;210&gt; 3389

&lt;211&gt; 1742

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (1736)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3389

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Arg | Leu | Leu | Gly | Cys | Arg | Asn | Ser | Lys | Arg | Thr | Trp | Arg | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ile | Ser | Lys | Asn | Met | Pro | Trp | Arg | Arg | Leu | Gln | Gly | Ile | Ser | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Met | Tyr | Ser | Ala | Glu | Glu | Leu | Lys | Lys | Leu | Ser | Val | Lys | Ser | Ile |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Asn | Pro | Arg | Tyr | Leu | Asp | Ser | Leu | Gly | Asn | Pro | Ser | Ala | Asn | Gly |
|     |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Tyr | Asp | Leu | Ala | Leu | Gly | Pro | Ala | Asp | Ser | Lys | Glu | Val | Cys | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Cys | Val | Gln | Asp | Phe | Ser | Asn | Cys | Ser | Gly | His | Leu | Gly | His | Ile |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Leu | Pro | Leu | Thr | Val | Tyr | Asn | Pro | Leu | Leu | Phe | Asp | Lys | Leu | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Leu | Leu | Arg | Gly | Ser | Cys | Leu | Asn | Cys | His | Met | Leu | Thr | Cys | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Ala | Val | Ile | His | Leu | Leu | Leu | Cys | Gln | Leu | Arg | Val | Leu | Glu | Val |
|     |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Ala | Leu | Gln | Ala | Val | Tyr | Glu | Leu | Glu | Arg | Ile | Leu | Asn | Arg | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Glu | Glu | Asn | Pro | Asp | Pro | Ser | Ala | Ser | Glu | Ile | Arg | Glu | Glu | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Gln | Tyr | Thr | Thr | Glu | Ile | Val | Gln | Asn | Asn | Leu | Leu | Gly | Ser | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Ala | His | Val | Lys | Asn | Val | Cys | Glu | Ser | Lys | Ser | Lys | Leu | Ile | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Phe | Trp | Lys | Ala | His | Met | Asn | Ala | Lys | Arg | Cys | Pro | His | Cys | Lys |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Gly | Arg | Ser | Val | Val | Arg | Lys | Glu | His | Asn | Ser | Lys | Leu | Thr | Ile |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Thr | Phe | Pro | Ala | Met | Val | His | Arg | Thr | Ala | Gly | Gln | Lys | Asp | Ser | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Leu | Gly | Ile | Glu | Glu | Ala | Gln | Ile | Gly | Lys | Arg | Gly | Tyr | Leu | Thr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Thr | Ser | Ala | Arg | Glu | His | Leu | Ser | Ala | Leu | Trp | Lys | Asn | Glu | Gly |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Phe | Phe | Leu | Asn | Tyr | Leu | Phe | Ser | Gly | Met | Asp | Asp | Asp | Gly | Met | Glu |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Arg | Phe | Asn | Pro | Ser | Val | Phe | Phe | Leu | Asp | Phe | Leu | Val | Val | Pro |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Pro | Ser | Arg | Tyr | Arg | Pro | Val | Ser | Arg | Leu | Gly | Asp | Gln | Met | Phe | Thr |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Asn | Gly | Gln | Thr | Val | Asn | Leu | Gln | Ala | Val | Met | Lys | Asp | Val | Val | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ile | Arg | Lys | Leu | Leu | Ala | Leu | Met | Ala | Gln | Glu | Gln | Lys | Leu | Pro | Glu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Glu | Val | Ala | Thr | Pro | Thr | Thr | Asp | Glu | Glu | Lys | Asp | Ser | Leu | Ile | Ala |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ile | Asp | Arg | Ser | Phe | Leu | Ser | Thr | Leu | Pro | Gly | Gln | Ser | Leu | Ile | Asp |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Lys | Leu | Tyr | Asn | Ile | Trp | Ile | Arg | Leu | Gln | Ser | His | Val | Asn | Ile | Val |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Phe | Asp | Ser | Glu | Met | Asp | Lys | Leu | Met | Met | Asp | Lys | Tyr | Pro | Gly | Ile |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Arg | Gln | Ile | Leu | Glu | Lys | Lys | Glu | Gly | Leu | Phe | Arg | Lys | His | Met | Met |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Gly | Lys | Arg | Val | Asp | Tyr | Ala | Ala | Arg | Ser | Val | Ile | Cys | Pro | Asp | Met |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Tyr | Ile | Asn | Thr | Asn | Glu | Ile | Gly | Ile | Pro | Met | Val | Phe | Ala | Thr | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480 |     |
| Leu | Thr | Tyr | Pro | Gln | Pro | Val | Thr | Pro | Trp | Asn | Val | Gln | Glu | Leu | Arg |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Gln | Ala | Val | Ile | Asn | Gly | Pro | Asn | Val | His | Pro | Gly | Ala | Ser | Met | Val |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Ile | Asn | Glu | Asp | Gly | Ser | Arg | Thr | Ala | Leu | Ser | Ala | Val | Asp | Met | Thr |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Gln | Arg | Glu | Ala | Val | Ala | Lys | Gln | Leu | Leu | Thr | Pro | Ala | Thr | Gly | Ala |
|     | 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |
| Pro | Lys | Pro | Gln | Gly | Thr | Lys | Ile | Val | Cys | Arg | His | Val | Lys | Asn | Gly |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560 |     |
| Asp | Ile | Leu | Leu | Leu | Asn | Arg | Gln | Pro | Thr | Leu | His | Arg | Pro | Ser | Ile |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Gln | Ala | His | Arg | Ala | Arg | Ile | Leu | Pro | Glu | Glu | Lys | Val | Leu | Arg | Leu |
|     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |
| His | Tyr | Ala | Asn | Cys | Lys | Ala | Tyr | Asn | Ala | Asp | Phe | Asp | Gly | Asp | Glu |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Met | Asn | Ala | His | Phe | Pro | Gln | Ser | Glu | Leu | Gly | Arg | Ala | Glu | Ala | Tyr |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Val | Leu | Ala | Cys | Thr | Asp | Gln | Gln | Tyr | Leu | Val | Pro | Lys | Asp | Gly | Gln |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     | 640 |     |
| Pro | Leu | Ala | Gly | Leu | Ile | Gln | Asp | His | Met | Val | Ser | Gly | Ala | Ser | Met |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Thr | Thr | Arg | Gly | Cys | Phe | Phe | Thr | Arg | Glu | His | Tyr | Met | Glu | Leu | Val |
|     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
| Tyr | Arg | Gly | Leu | Thr | Asp | Lys | Val | Gly | Arg | Val | Lys | Leu | Leu | Ser | Pro |
|     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |     |
| Ser | Ile | Leu | Lys | Pro | Phe | Pro | Leu | Trp | Thr | Gly | Lys | Gln | Val | Val | Ser |
|     | 690 |     |     |     |     | 695 |     |     |     | 700 |     |     |     |     |     |
| Thr | Leu | Leu | Ile | Asn | Ile | Ile | Pro | Glu | Asp | His | Ile | Pro | Leu | Asn | Leu |
| 705 |     |     |     | 710 |     |     |     |     |     | 715 |     |     |     | 720 |     |
| Ser | Gly | Lys | Ala | Lys | Ile | Thr | Gly | Lys | Ala | Trp | Val | Lys | Glu | Thr | Pro |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |
| Arg | Ser | Val | Pro | Gly | Phe | Asn | Pro | Asp | Ser | Met | Cys | Glu | Ser | Gln | Val |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     | 750 |     |     |     |
| Ile | Ile | Arg | Glu | Gly | Glu | Leu | Leu | Cys | Gly | Val | Leu | Asp | Lys | Ala | His |
|     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |     |
| Tyr | Gly | Ser | Ser | Ala | Tyr | Gly | Leu | Val | His | Cys | Cys | Tyr | Glu | Ile | Tyr |
|     | 770 |     |     |     |     | 775 |     |     |     | 780 |     |     |     |     |     |
| Gly | Gly | Glu | Thr | Ser | Gly | Lys | Val | Leu | Thr | Cys | Leu | Ala | Arg | Leu | Phe |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     | 800 |     |
| Thr | Ala | Tyr | Leu | Gln | Leu | Tyr | Arg | Gly | Phe | Thr | Leu | Gly | Val | Glu | Asp |
|     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |
| Ile | Leu | Val | Lys | Pro | Lys | Ala | Asp | Val | Lys | Arg | Gln | Arg | Ile | Ile | Glu |
|     |     | 820 |     |     |     |     |     | 825 |     |     |     |     | 830 |     |     |
| Glu | Ser | Thr | His | Cys | Gly | Pro | Gln | Ala | Val | Arg | Ala | Ala | Leu | Asn | Leu |
|     | 835 |     |     |     |     |     | 840 |     |     |     | 845 |     |     |     |     |
| Pro | Glu | Ala | Ala | Ser | Tyr | Asp | Glu | Val | Arg | Gly | Lys | Trp | Gln | Asp | Ala |
|     | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |
| His | Leu | Gly | Lys | Asp | Gln | Arg | Asp | Phe | Asn | Met | Ile | Asp | Leu | Lys | Phe |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     | 880 |     |
| Lys | Glu | Glu | Val | Asn | His | Tyr | Ser | Asn | Glu | Ile | Asn | Lys | Ala | Cys | Met |
|     |     |     | 885 |     |     |     |     |     | 890 |     |     |     |     | 895 |     |
| Pro | Phe | Gly | Leu | His | Arg | Gln | Phe | Pro | Glu | Asn | Thr | Leu | Gln | Leu | Met |
|     |     | 900 |     |     |     |     |     | 905 |     |     |     |     | 910 |     |     |
| Val | Gln | Ser | Gly | Ala | Lys | Gly | Ser | Thr | Val | Asn | Thr | Met | Gln | Ile | Ser |
|     | 915 |     |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
| Cys | Leu | Leu | Gly | Gln | Ile | Glu | Leu | Glu | Gly | Arg | Ser | Thr | Pro | Leu | Met |
|     | 930 |     |     |     |     | 935 |     |     |     | 940 |     |     |     |     |     |
| Ala | Ser | Gly | Lys | Ser | Leu | Pro | Cys | Phe | Glu | Pro | Tyr | Glu | Phe | Thr | Pro |
| 945 |     |     |     |     | 950 |     |     |     | 955 |     |     |     |     | 960 |     |
| Arg | Ala | Gly | Gly | Phe | Val | Thr | Gly | Arg | Phe | Leu | Thr | Gly | Ile | Lys | Pro |
|     |     |     | 965 |     |     |     |     | 970 |     |     |     |     | 975 |     |     |
| Pro | Glu | Phe | Phe | Phe | His | Cys | Met | Ala | Gly | Arg | Glu | Gly | Leu | Val | Asp |

|   |   |      |      |      |      |
|---|---|------|------|------|------|
|   | 980   |      | 985  |      | 990  |
| Thr Ala Val   | Lys Thr Ser Arg Ser Gly Tyr Leu Gln Arg Cys Ile Ile |      |      |      |      |
| 995   |   | 1000 |      | 1005 |      |
| Lys His Leu Glu Gly Leu Val Val Gln Tyr Asp Leu Thr Val Arg Asp |   |      |      |      |      |
| 1010  |   | 1015 |      | 1020 |      |
| Ser Asp Gly Ser Val Val Gln Phe Leu Tyr Gly Glu Asp Gly Leu Asp |   |      |      |      |      |
| 1025  |   | 1030 |      | 1035 | 1040 |
| Ile Pro Lys Thr Gln Phe Leu Gln Pro Lys Gln Phe Pro Phe Leu Ala |   |      |      |      |      |
|   | 1045  |      | 1050 |      | 1055 |
| Ser Asn Tyr Glu Val Ile Met Lys Ser Gln His Leu His Glu Val Leu |   |      |      |      |      |
|   | 1060  |      | 1065 |      | 1070 |
| Ser Arg Ala Asp Pro Lys Lys Ala Leu His His Phe Arg Ala Ile Lys |   |      |      |      |      |
|   | 1075  |      | 1080 |      | 1085 |
| Lys Trp Gln Ser Lys His Pro Asn Thr Leu Leu Arg Arg Gly Ala Phe |   |      |      |      |      |
|   | 1090  |      | 1095 |      | 1100 |
| Leu Ser Tyr Ser Gln Lys Ile Gln Glu Ala Val Lys Ala Leu Lys Leu |   |      |      |      |      |
| 1105  |   | 1110 |      | 1115 | 1120 |
| Glu Ser Glu Asn Arg Asn Gly Arg Arg Pro Trp Asp Ser Gly Arg Met |   |      |      |      |      |
|   | 1125  |      | 1130 |      | 1135 |
| Leu Arg Met Trp Tyr Glu Leu Asp Glu Glu Ser Arg Arg Lys Tyr Gln |   |      |      |      |      |
|   | 1140  |      | 1145 |      | 1150 |
| Lys Lys Ala Ala Ala Cys Pro Asp Pro Ser Leu Ser Val Trp Arg Pro |   |      |      |      |      |
|   | 1155  |      | 1160 |      | 1165 |
| Asp Ile Tyr Phe Ala Ser Val Ser Glu Thr Phe Glu Thr Lys Val Asp |   |      |      |      |      |
|   | 1170  |      | 1175 |      | 1180 |
| Asp Tyr Ser Gln Glu Trp Ala Ala Gln Thr Glu Lys Ser Tyr Glu Lys |   |      |      |      |      |
| 1185  |   | 1190 |      | 1195 | 1200 |
| Ser Glu Leu Ser Leu Asp Arg Leu Arg Thr Leu Leu Gln Leu Lys Trp |   |      |      |      |      |
|   | 1205  |      | 1210 |      | 1215 |
| Gln Arg Ser Leu Cys Glu Pro Gly Glu Ala Val Gly Leu Leu Ala Ala |   |      |      |      |      |
|   | 1220  |      | 1225 |      | 1230 |
| Gln Ser Ile Gly Glu Pro Ser Thr Gln Met Thr Leu Asn Thr Phe His |   |      |      |      |      |
|   | 1235  |      | 1240 |      | 1245 |
| Phe Ala Gly Arg Gly Glu Met Asn Val Thr Leu Gly Ile Pro Arg Leu |   |      |      |      |      |
|   | 1250  |      | 1255 |      | 1260 |
| Arg Glu Ile Leu Met Val Ala Ser Ala Asn Ile Lys Thr Pro Met Met |   |      |      |      |      |
| 1265  |   | 1270 |      | 1275 | 1280 |
| Ser Val Pro Val Leu Asn Thr Lys Lys Ala Leu Lys Arg Val Lys Ser |   |      |      |      |      |
|   | 1285  |      | 1290 |      | 1295 |
| Leu Lys Lys Gln Leu Thr Arg Val Cys Leu Gly Glu Val Leu Gln Lys |   |      |      |      |      |
|   | 1300  |      | 1305 |      | 1310 |
| Ile Asp Val Gln Glu Ser Phe Cys Met Glu Glu Lys Gln Asn Lys Phe |   |      |      |      |      |
|   | 1315  |      | 1320 |      | 1325 |
| Gln Val Tyr Gln Leu Arg Phe Gln Phe Leu Pro His Ala Tyr Tyr Gln |   |      |      |      |      |
|   | 1330  |      | 1335 |      | 1340 |
| Gln Glu Lys Cys Leu Arg Pro Glu Asp Ile Leu Arg Phe Met Glu Thr |   |      |      |      |      |
| 1345  |   | 1350 |      | 1355 | 1360 |
| Arg Phe Phe Lys Leu Leu Met Glu Ser Ile Lys Lys Lys Asn Asn Lys |   |      |      |      |      |
|   | 1365  |      | 1370 |      | 1375 |
| Ala Ser Ala Phe Arg Asn Val Asn Thr Arg Arg Ala Thr Gln Arg Asp |   |      |      |      |      |
|   | 1380  |      | 1385 |      | 1390 |
| Leu Asp Asn Ala Gly Glu Leu Gly Arg Ser Arg Gly Glu Gln Glu Gly |   |      |      |      |      |
|   | 1395  |      | 1400 |      | 1405 |
| Asp Glu Glu Glu Glu Gly His Ile Val Asp Ala Glu Ala Glu Glu Gly |   |      |      |      |      |
|   | 1410  |      | 1415 |      | 1420 |
| Asp Ala Asp Ala Ser Asp Ala Lys Arg Lys Glu Lys Gln Glu Glu Glu |   |      |      |      |      |
| 1425  |   | 1430 |      | 1435 | 1440 |
| Val Asp Tyr Glu Ser Glu Glu Glu Glu Glu Arg Glu Gly Glu Glu Asn |   |      |      |      |      |
|   | 1445  |      | 1450 |      | 1455 |
| Asp Asp Glu Asp Met Gln Glu Glu Arg Asn Pro His Arg Glu Gly Ala |   |      |      |      |      |
|   | 1460  |      | 1465 |      | 1470 |
| Arg Lys Thr Gln Glu Gln Asp Glu Glu Val Gly Leu Gly His Xaa Gly |   |      |      |      |      |
|   | 1475  |      | 1480 |      | 1485 |
| Gly Pro Val Pro Ser Arg Pro Pro Asp Ala Ala Pro Glu Thr His Pro |   |      |      |      |      |

|   |      |      |
|---|------|------|
| 1490  | 1495 | 1500 |
| Gln Pro Gly Ala Pro Gly Ala Glu Ala Met Glu Arg Arg Val Gln Ala |      |      |
| 1505  | 1510 | 1515 |
| Val Arg Glu Ile His Pro Phe Ile Asp Asp Tyr Gln Tyr Asp Thr Glu |      | 1520 |
|   | 1525 | 1530 |
| Glu Ser Leu Trp Cys Gln Val Thr Val Lys Leu Pro Leu Met Lys Ile |      | 1535 |
|   | 1540 | 1545 |
| Asn Phe Asp Met Ser Ser Leu Val Val Ser Leu Ala His Gly Ala Val |      | 1550 |
|   | 1555 | 1560 |
| Ile Tyr Ala Thr Lys Gly Ile Thr Arg Cys Leu Leu Asn Glu Thr Thr |      | 1565 |
|   | 1570 | 1575 |
| Asn Asn Lys Asn Glu Lys Glu Leu Val Leu Asn Thr Glu Gly Ile Asn |      | 1580 |
| 1585  | 1590 | 1595 |
| Leu Pro Glu Leu Phe Lys Tyr Ala Glu Val Leu Asp Leu Arg Arg Leu |      | 1600 |
|   | 1605 | 1610 |
| Tyr Ser Asn Asp Ile His Ala Ile Ala Asn Thr Tyr Gly Ile Glu Ala |      | 1615 |
|   | 1620 | 1625 |
| Ala Leu Arg Val Ile Glu Lys Glu Ile Lys Asp Val Phe Ala Val Tyr |      | 1630 |
|   | 1635 | 1640 |
| Gly Ile Ala Val Asp Pro Arg His Leu Ser Leu Val Ala Asp Tyr Met |      | 1645 |
|   | 1650 | 1655 |
| Cys Phe Glu Gly Val Tyr Lys Pro Leu Asn Arg Phe Gly Ile Arg Ser |      | 1660 |
| 1665  | 1670 | 1675 |
| Asn Ser Ser Pro Leu Gln Gln Met Thr Phe Glu Thr Ser Phe Gln Phe |      | 1680 |
|   | 1685 | 1690 |
| Leu Lys Gln Ala Thr Met Leu Gly Ser His Asp Glu Leu Arg Ser Pro |      | 1695 |
|   | 1700 | 1705 |
| Ser Ala Cys Leu Val Val Gly Lys Val Val Arg Gly Gly Thr Gly Leu |      | 1710 |
|   | 1715 | 1720 |
| Phe Glu Leu Lys Gln Pro Leu Arg                                 |      | 1725 |
| 1730  | 1735 | 1736 |

&lt;210&gt; 3390

&lt;211&gt; 700

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(690)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3390

|   |     |     |
|---|-----|-----|
| Ile Leu Pro Pro Leu Glu Gly Pro Pro Ala Gln Ala Ser Pro Ser Ser |     |     |
| 1   | 5   | 10  |
| Thr Met Leu Gly Glu Gly Ser Gln Pro Asp Trp Pro Gly Gly Ser Arg |     | 15  |
|   | 20  | 25  |
| Tyr Asp Leu Asp Glu Ile Asp Ala Tyr Trp Leu Glu Leu Ile Asn Ser |     | 30  |
|   | 35  | 40  |
| Glu Leu Lys Glu Met Glu Arg Pro Glu Leu Asp Glu Leu Thr Leu Glu |     | 45  |
|   | 50  | 55  |
| Arg Val Leu Glu Glu Leu Glu Thr Leu Cys His Gln Asn Met Ala Arg |     | 60  |
|   | 65  | 70  |
| Ala Ile Glu Thr Gln Glu Gly Leu Gly Ile Glu Tyr Asp Glu Asp Val |     | 75  |
|   | 85  | 90  |
| Val Cys Asp Val Cys Arg Ser Pro Glu Gly Glu Asp Gly Asn Glu Met |     | 95  |
|   | 100 | 105 |
| Val Phe Cys Asp Lys Cys Asn Val Cys Val His Gln Ala Cys Tyr Gly |     | 110 |
|   | 115 | 120 |
| Ile Leu Lys Val Pro Thr Gly Ser Trp Leu Cys Arg Thr Cys Ala Leu |     | 125 |
|   | 130 | 135 |
| Gly Val Gln Pro Lys Cys Leu Leu Cys Pro Lys Arg Gly Gly Ala Leu |     | 140 |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | Pro | Thr | Arg | Ser | Gly | Thr | Lys | Trp | Val | His | Val | Ser | Cys | Ala | Leu |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |
| Trp | Ile | Pro | Glu | Val | Ser | Ile | Gly | Cys | Pro | Glu | Lys | Met | Glu | Pro | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Lys | Ile | Ser | His | Ile | Pro | Ala | Ser | Arg | Trp | Ala | Leu | Ser | Cys | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Cys | Lys | Glu | Cys | Thr | Gly | Thr | Cys | Ile | Gln | Cys | Ser | Met | Pro | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Cys | Val | Thr | Ala | Phe | His | Val | Thr | Cys | Ala | Phe | Asp | His | Gly | Leu | Glu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Met | Arg | Thr | Ile | Leu | Ala | Asp | Asn | Asp | Glu | Val | Lys | Phe | Lys | Ser | Phe |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Cys | Gln | Glu | His | Ser | Asp | Gly | Gly | Pro | Arg | Asn | Glu | Pro | Thr | Ser | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Thr | Glu | Pro | Ser | Gln | Ala | Gly | Glu | Asp | Leu | Glu | Lys | Val | Thr | Leu |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Arg | Lys | Gln | Arg | Leu | Gln | Gln | Leu | Glu | Glu | Asp | Phe | Tyr | Glu | Leu | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Glu | Pro | Ala | Glu | Val | Ala | Glu | Arg | Leu | Asp | Leu | Ala | Glu | Ala | Leu | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Asp | Phe | Ile | Tyr | Gln | Tyr | Trp | Lys | Leu | Lys | Arg | Lys | Ala | Asn | Ala | Asn |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gln | Pro | Leu | Leu | Thr | Pro | Lys | Thr | Asp | Glu | Val | Asp | Asn | Leu | Ala | Gln |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Gln | Glu | Gln | Asp | Val | Leu | Tyr | Arg | Arg | Leu | Lys | Leu | Phe | Thr | His | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Arg | Gln | Asp | Leu | Glu | Arg | Val | Arg | Asn | Leu | Cys | Tyr | Met | Val | Thr | Arg |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Arg | Glu | Arg | Thr | Lys | His | Ala | Ile | Cys | Lys | Leu | Gln | Glu | Gln | Ile | Phe |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| His | Leu | Gln | Met | Lys | Leu | Ile | Glu | Gln | Asp | Leu | Cys | Arg | Ala | Gly | Leu |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Ser | Thr | Ser | Phe | Pro | Ile | Asp | Gly | Thr | Phe | Phe | Asn | Ser | Trp | Leu | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gln | Ser | Val | Gln | Ile | Thr | Ala | Glu | Asn | Met | Ala | Met | Ser | Glu | Trp | Pro |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Leu | Asn | Asn | Gly | His | Arg | Glu | Asp | Pro | Ala | Pro | Gly | Leu | Leu | Ser | Glu |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Glu | Leu | Leu | Gln | Asp | Glu | Glu | Thr | Leu | Leu | Ser | Phe | Met | Arg | Asp | Pro |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     | 480 |     |
| Ser | Leu | Arg | Pro | Gly | Asp | Pro | Ala | Arg | Lys | Ala | Arg | Gly | Arg | Thr | Arg |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Pro | Ala | Lys | Lys | Lys | Pro | Pro | Pro | Pro | Pro | Pro | Gln | Asp | Gly | Pro |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Gly | Ser | Arg | Thr | Thr | Pro | Asp | Lys | Ala | Pro | Lys | Lys | Thr | Trp | Gly | Gln |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |
| Asp | Ala | Gly | Ser | Gly | Lys | Gly | Gly | Gln | Gly | Pro | Pro | Thr | Arg | Lys | Pro |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Pro | Arg | Arg | Thr | Ser | Ser | His | Leu | Pro | Ser | Ser | Pro | Ala | Ala | Gly | Asp |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560 |     |
| Cys | Pro | Ile | Leu | Ala | Thr | Pro | Glu | Ser | Pro | Pro | Pro | Leu | Ala | Pro | Glu |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Thr | Pro | Asp | Glu | Ala | Ala | Ser | Val | Ala | Ala | Asp | Ser | Asp | Val | Gln | Val |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Pro | Gly | Pro | Ala | Ala | Ser | Pro | Lys | Pro | Leu | Gly | Arg | Leu | Arg | Pro | Pro |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |
| Pro | Arg | Glu | Pro | Arg | Xaa | Thr | Arg | Arg | Leu | Pro | Gly | Cys | Ala | Arg | Pro |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Asp | Ala | Gly | Asp | Gly | Asp | His | Leu | Ser | Ala | Val | Ala | Glu | Arg | Pro | Lys |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     | 640 |     |
| Val | Ser | Leu | His | Phe | Asp | Thr | Glu | Thr | Asp | Gly | Tyr | Phe | Ser | Asp | Gly |
|     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Glu | Met | Ser | Asn | Ser | Asp | Val | Glu | Ala | Glu | Asp | Gly | Gly | Val | Gln | Arg |

660                      665                      670  
 Gly Pro Arg Glu Ala Gly Ala Lys Glu Val Val Arg Met Gly Val Leu  
                     675                      680                      685  
 Ala Ser  
                     690

<210> 3391  
 <211> 410  
 <212> PRT  
 <213> Homo sapiens  
  
 <221> misc\_feature  
 <222> (1)...(409)  
 <223> Xaa = any amino acid or nothing

<400> 3391  
 Asn Ser Phe Leu His Phe Leu His Leu Lys Val Arg Thr Met Phe Leu  
   1                    5                    10                    15  
 Phe Pro Ser Phe Pro Val Leu Leu Leu Ser Val Val Thr Ala Ser Cys  
                     20                    25                    30  
 Ser Lys Thr Lys Ala Cys Ala Asp Thr Gln Lys Thr Cys Ser Met Ile  
                     35                    40                    45  
 Thr Cys Gly Ile Pro Val Thr Asn Gly Thr Pro Gly Arg Asp Gly Arg  
                     50                    55                    60  
 Asp Arg Pro Lys Gly Glu Lys Gly Glu Pro Gly Leu Gly Gln Val Ser  
   65                    70                    75                    80  
 Val Ala Ser Xaa Ile Ser Thr Ser Gly Arg Cys Ser Ser Lys Ser Val  
                     85                    90                    95  
 Leu Glu Pro Ala Thr Arg Gly Leu Lys His Arg Leu Gly Glu Ala Pro  
                     100                    105                    110  
 Leu Ser Ser Gly Pro Met Leu His Ser Glu Gln Pro Leu Xaa Asn Ala  
                     115                    120                    125  
 Ile Ala Ser Lys Thr Lys Leu Phe Val Asp Ser Leu Gly Ser His Ile  
                     130                    135                    140  
 Ser Thr Gln Glu Leu Gly Val Cys Gly Cys Pro Phe Arg Gly Val Ser  
   145                    150                    155                    160  
 Cys Leu Val Gly Glu Leu Ala Leu Val Gln Ala Leu His Xaa Val Ala  
                     165                    170                    175  
 Gly Glu Ser Phe Phe Phe Gly Ser Asp His Trp Leu Ile Gly Cys Ala  
                     180                    185                    190  
 Gly Gly Glu Gln Glu Trp Ser Ile Glu Leu Leu Gly Lys Lys Lys Arg  
                     195                    200                    205  
 Val Thr Ala Thr Gly Ser Ser Ser Leu Cys Leu Ala Thr Gly Gln Gly  
                     210                    215                    220  
 Leu Arg Gly Leu Gln Gly Pro Pro Gly Lys Met Gly Pro Pro Gly Asn  
   225                    230                    235                    240  
 Thr Gly Thr Ser Gly Ile Pro Gly Pro Arg Gly Gln Lys Gly Asp Arg  
                     245                    250                    255  
 Gly Asp Asn Ser Val Ala Glu Ala Lys Leu Ala Asn Leu Glu Arg Lys  
                     260                    265                    270  
 Leu Xaa Ser Leu Arg Ser Glu Leu Asp His Thr Lys Lys Leu Xaa Pro  
                     275                    280                    285  
 Phe Ser Leu Gly Lys Met Ser Gly Lys Lys Leu Phe Val Thr Asn Gly  
                     290                    295                    300  
 Glu Arg Met Pro Phe Ser Lys Val Lys Ala Leu Cys Ala Gly Leu Gln  
   305                    310                    315                    320  
 Ala Thr Val Ala Ala Pro Lys Asn Ala Glu Glu Asn Lys Ala Ile Gln  
                     325                    330                    335  
 Asp Val Ala Lys Asp Thr Ala Phe Leu Gly Ile Thr Asp Glu Ala Thr  
                     340                    345                    350  
 Glu Gly Gln Phe Met Tyr Leu Thr Gly Gly Arg Leu Thr Tyr Ser Asn

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
|     | 355 |     | 360 |     | 365 |     |
| Trp | Lys | Lys | Asp | Glu | Pro | Asn |
|     | 370 |     | 375 |     | 380 |     |
| Ile | Leu | Leu | Asn | Asn | Gly | Leu |
| 385 |     |     | 390 |     | 395 | 400 |
| Phe | Ile | Ala | Ile | Cys | Glu | Phe |
|     |     |     | 405 |     | 409 |     |

&lt;210&gt; 3392

&lt;211&gt; 520

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(519)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3392

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Ser | Arg | Arg | Asn | Gln | Arg | Arg | Ser | Ile | Pro | Val | Leu | Gly | Tyr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe | Leu | Lys | Gln | Lys | Lys | Met | Thr | Lys | Ala | Gln | Glu | Ser | Leu | Thr | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asp | Val | Ala | Val | Asp | Phe | Thr | Trp | Glu | Glu | Trp | Gln | Phe | Leu | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Ala | Gln | Lys | Asp | Leu | Tyr | Arg | Asp | Val | Met | Leu | Glu | Asn | Tyr | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Leu | Val | Ser | Val | Gly | Tyr | Gln | Ala | Gly | Lys | Pro | Asp | Ala | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Lys | Leu | Glu | Gln | Gly | Glu | Pro | Leu | Trp | Thr | Leu | Glu | Asp | Glu | Ile | His |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Pro | Ala | His | Pro | Glu | Ile | Glu | Lys | Ala | Asp | Asp | His | Leu | Gln | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Leu | Gln | Asn | Gln | Lys | Ile | Leu | Lys | Arg | Thr | Gly | Gln | Arg | Tyr | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| His | Gly | Arg | Thr | Leu | Lys | Ser | Tyr | Leu | Gly | Leu | Thr | Asn | Gln | Ser | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Tyr | Asn | Arg | Lys | Glu | Pro | Ala | Glu | Phe | Asn | Gly | Asp | Gly | Ala | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | His | Asp | Asn | His | Glu | Gln | Met | Pro | Thr | Glu | Ile | Glu | Phe | Pro | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Arg | Lys | Pro | Ile | Ser | Thr | Lys | Ser | Gln | Phe | Leu | Lys | His | Gln | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | His | Asn | Ile | Glu | Lys | Ala | His | Glu | Cys | Thr | Asp | Cys | Gly | Lys | Ala |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Phe | Leu | Lys | Lys | Ser | Gln | Leu | Thr | Glu | His | Lys | Arg | Ile | His | Thr | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Lys | Pro | His | Val | Cys | Ser | Leu | Cys | Gly | Lys | Ala | Phe | Tyr | Lys | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Tyr | Arg | Leu | Thr | Glu | His | Glu | Arg | Ala | His | Arg | Gly | Glu | Lys | Pro | His |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Cys | Ser | Leu | Cys | Gly | Lys | Ala | Phe | Tyr | Lys | Arg | Tyr | Arg | Leu | Thr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | His | Glu | Arg | Ala | His | Lys | Gly | Glu | Lys | Pro | Tyr | Gly | Cys | Ser | Glu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Cys | Gly | Lys | Ala | Phe | Pro | Arg | Lys | Ser | Glu | Leu | Thr | Glu | His | Gln | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ile | His | Thr | Gly | Ile | Lys | Pro | His | Gln | Cys | Ser | Glu | Cys | Gly | Arg | Ala |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Phe | Ser | Arg | Lys | Ser | Leu | Leu | Val | Val | His | Gln | Arg | Thr | His | Thr | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Glu | Lys | Pro | His | Thr | Cys | Ser | Glu | Cys | Gly | Lys | Gly | Phe | Ile | Gln | Lys |

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      340      345      350
Gly Asn Leu Asn Ile His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
      355      360      365
Gly Cys Ile Asp Cys Gly Lys Ala Phe Ser Gln Lys Ser Cys Leu Val
      370      375      380
Ala His Gln Arg Tyr His Thr Gly Lys Thr Pro Phe Val Cys Pro Glu
385      390      395      400
Cys Gly Gln Pro Cys Ser Gln Lys Ser Gly Leu Ile Arg His Gln Lys
      405      410      415
Ile His Ser Gly Glu Lys Pro Tyr Lys Cys Ser Asp Cys Gly Lys Ala
      420      425      430
Phe Leu Thr Lys Thr Met Leu Ile Val His His Arg Thr His Thr Gly
      435      440      445
Glu Arg Pro Tyr Gly Cys Asp Glu Cys Glu Lys Ala Tyr Phe Tyr Met
      450      455      460
Ser Cys Leu Val Lys His Lys Arg Ile His Ser Arg Glu Lys Arg Gly
465      470      475      480
Asp Cys Ser Glu Gly Gly Lys Ser Phe His Ser Lys Ser Gln Leu Lys
      485      490      495
Ser Xaa Xaa Thr Cys Ala Gly Glu Lys Pro Cys Xaa Tyr Gly Asn Cys
      500      505      510
Gly Asn Gly Gly Arg Ala Val
      515      519

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&lt;210&gt; 3393

&lt;211&gt; 483

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(468)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3393

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Ala Arg Ser Leu Ser Gly Ala Pro Ser Gly Ser Ser Arg Gln Asp Gly
 1      5      10      15
Thr Ser Leu Leu Arg Thr Gly Ala Gly Tyr Ser Ser Ser Gln Ser Ile
      20      25      30
Glu Thr Leu Ser Leu Pro Pro Gly Pro Ser His Leu Val Gly Asp Lys
      35      40      45
Ser Gln Gly Gly Arg Ser Cys Gln Gly Gln Ile Thr Ser Ala Ala Ser
      50      55      60
Gly Lys Thr Ser Lys Ser Glu Pro Asn His Val Ile Phe Lys Lys Ile
      65      70      75      80
Ser Arg Asp Lys Ser Val Thr Ile Tyr Leu Gly Asn Arg Asp Tyr Ile
      85      90      95
Asp His Val Ser Gln Val Gln Pro Val Asp Gly Val Val Leu Val Asp
      100      105      110
Pro Asp Leu Val Lys Gly Lys Lys Val Tyr Val Thr Leu Thr Cys Ala
      115      120      125
Phe Arg Tyr Gly Gln Glu Asp Ile Asp Val Ile Gly Leu Thr Phe Arg
      130      135      140
Arg Asp Leu Tyr Phe Ser Arg Val Gln Val Tyr Pro Pro Val Gly Ala
      145      150      155      160
Ala Ser Thr Pro Thr Lys Leu Gln Glu Ser Leu Leu Lys Lys Leu Gly
      165      170      175
Ser Asn Thr Tyr Pro Phe Leu Leu Thr Phe Pro Asp Tyr Leu Pro Cys
      180      185      190
Ser Val Met Leu Gln Pro Ala Pro Gln Asp Ser Gly Lys Ser Cys Gly
      195      200      205
Val Asp Phe Glu Val Lys Ala Phe Ala Thr Asp Ser Thr Asp Ala Glu

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|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Glu Asp Lys Ile Pro Lys Lys Ser Ser Val Arg Leu Leu Ile Arg Lys |     |     |
| 225   | 230 | 235 |
| Val Gln His Ala Pro Leu Glu Met Gly Pro Gln Pro Arg Ala Glu Ala |     | 240 |
|   | 245 | 250 |
| Ala Trp Gln Phe Phe Met Phe Asp Lys Pro Leu His Leu Ala Val Ser |     | 255 |
|   | 260 | 265 |
| Leu Asn Lys Arg Asp Leu Phe Pro Met Gly Ser Pro Ile Pro Val Pro |     | 270 |
|   | 275 | 280 |
| Val Ser Val Pro Asn Asn Thr Glu Lys Pro Val Lys Lys Ile Lys Ala |     | 285 |
|   | 290 | 295 |
| Ser Val Glu Gln Val Ala Asn Val Val Leu Tyr Ser Ser Asp Tyr Tyr |     | 300 |
| 305   | 310 | 315 |
| Val Lys Pro Val Ala Met Glu Glu Ala Gln Glu Lys Val Pro Pro Asn |     | 320 |
|   | 325 | 330 |
| Ser Thr Trp Thr Lys Ala Leu Thr Leu Leu Pro Trp Leu Val Asn Asn |     | 335 |
|   | 340 | 345 |
| Arg Glu Arg Arg Gly Ile Ala Leu Asp Gly Lys Ile Lys His Glu Asp |     | 350 |
|   | 355 | 360 |
| Thr Asn Leu Ala Ser Ser Thr Ile Ile Lys Glu Gly Ile Asp Arg Lys |     | 365 |
|   | 370 | 375 |
| Arg Ser Trp Glu Ile Leu Val Ser Tyr Pro Asp Gln Arg Xaa Ser Ser |     | 380 |
| 385   | 390 | 395 |
| Thr Val Ser Gly Phe Leu Gly Arg Ala Ser Pro Ser Gln Xaa Ser Arg |     | 400 |
|   | 405 | 410 |
| Pro Thr Xaa Arg Ser Gln Phe Arg Leu Met His Pro Gln Pro Glu Asp |     | 415 |
|   | 420 | 425 |
| Pro Ala Lys Glu Ser Tyr Gln Asp Ala Asn Leu Val Phe Glu Glu Phe |     | 430 |
|   | 435 | 440 |
| Ala Arg Pro Xaa Ile Leu Lys Asp Ala Gly Glu Ala Xaa Glu Gly Lys |     | 445 |
|   | 450 | 455 |
| Arg Asp Gln Glu   |     | 460 |
| 465   | 468 |     |

&lt;210&gt; 3394

&lt;211&gt; 460

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(459)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3394

|   |     |
|---|-----|
| Arg Pro Pro Thr Met Ala Ala Asp Gln Arg Pro Lys Ala Asp Thr Leu |     |
| 1   | 5   |
| Ala Leu Arg Gln Arg Leu Ile Ser Ser Ser Cys Arg Leu Phe Phe Pro | 10  |
|   | 15  |
|   | 20  |
| Glu Asp Pro Val Lys Ile Val Arg Ala Gln Gly Gln Tyr Met Tyr Asp | 25  |
|   | 30  |
|   | 35  |
| Glu Gln Gly Ala Glu Tyr Ile Asp Cys Ile Ser Asn Val Ala His Val | 40  |
|   | 45  |
|   | 50  |
| Gly His Cys His Pro Leu Val Val Gln Ala Ala His Glu Gln Asn Gln | 55  |
|   | 60  |
|   | 65  |
| Val Leu Asn Thr Asn Ser Arg Tyr Leu His Asp Asn Ile Val Asp Tyr | 70  |
|   | 75  |
|   | 80  |
|   | 85  |
| Ala Gln Arg Leu Ser Glu Thr Leu Pro Glu Gln Leu Cys Val Phe Tyr | 90  |
|   | 95  |
|   | 100 |
| Phe Leu Asn Ser Gly Ser Glu Ala Asn Asp Leu Ala Leu Arg Leu Ala | 105 |
|   | 110 |
|   | 115 |
| Arg His Tyr Thr Gly His Gln Asp Val Val Val Leu Asp His Ala Tyr | 120 |
|   | 125 |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 130                     | 135                 | 140                 |
| His Gly His Leu Ser Ser | Leu Ile Asp Ile Ser | Pro Tyr Lys Phe Arg |
| 145                     | 150                 | 155                 |
| Asn Leu Asp Gly Gln Lys | Glu Trp Val His Val | Ala Pro Leu Pro Asp |
| 165                     | 170                 | 175                 |
| Thr Tyr Arg Gly Pro Tyr | Arg Glu Asp His Pro | Thr His Val Glu Asp |
| 180                     | 185                 | 190                 |
| Gly Leu Glu Lys Ala Phe | Ser Xaa Lys Arg Val | Val Gln Gly Arg Asn |
| 195                     | 200                 | 205                 |
| Arg Gln Ile Cys Arg Arg | Gln Ile Ala Ala Phe | Phe Ala Glu Ser Leu |
| 210                     | 215                 | 220                 |
| Pro Ser Val Gly Gly Gln | Ile Ile Pro Pro Ala | Gly Tyr Phe Ser Gln |
| 225                     | 230                 | 235                 |
| Val Ala Glu His Ile Arg | Lys Ala Gly Gly Val | Phe Val Ala Asp Glu |
| 245                     | 250                 | 255                 |
| Ile Gln Val Gly Phe Gly | Arg Val Gly Lys His | Phe Trp Ala Phe Gln |
| 260                     | 265                 | 270                 |
| Leu Gln Gly Lys Asp Phe | Val Pro Asp Ile Val | Thr Met Gly Lys Ser |
| 275                     | 280                 | 285                 |
| Ile Gly Asn Gly His Pro | Val Ala Cys Val Ala | Ala Thr Gln Pro Val |
| 290                     | 295                 | 300                 |
| Ala Arg Ala Phe Glu Ala | Thr Gly Val Glu Tyr | Phe Asn Thr Phe Gly |
| 305                     | 310                 | 315                 |
| Gly Ser Pro Val Ser Cys | Ala Val Gly Leu Ala | Val Leu Asn Val Leu |
| 325                     | 330                 | 335                 |
| Glu Lys Glu Gln Leu Gln | Asp His Ala Thr Ser | Val Gly Ser Phe Leu |
| 340                     | 345                 | 350                 |
| Met Gln Leu Leu Gly Gln | Gln Lys Ile Lys His | Pro Ile Val Gly Asp |
| 355                     | 360                 | 365                 |
| Val Arg Gly Val Gly Leu | Phe Ile Gly Val Asp | Leu Ile Lys Asp Glu |
| 370                     | 375                 | 380                 |
| Ala Thr Arg Thr Pro Ala | Thr Glu Glu Ala Ala | Tyr Leu Val Ser Arg |
| 385                     | 390                 | 395                 |
| Leu Lys Glu Asn Tyr Val | Leu Leu Ser Thr Asp | Gly Pro Gly Arg Asn |
| 405                     | 410                 | 415                 |
| Ile Leu Lys Phe Lys Pro | Pro Met Cys Phe Ser | Leu Asp Asn Ala Arg |
| 420                     | 425                 | 430                 |
| Gln Val Val Ala Lys Leu | Asp Ala Ile Leu Thr | Asp Met Glu Glu Lys |
| 435                     | 440                 | 445                 |
| Val Arg Ser Cys Glu Thr | Leu Arg Leu Gln Pro |                     |
| 450                     | 455                 | 459                 |

&lt;210&gt; 3395

&lt;211&gt; 475

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(474)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3395

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| Phe Arg Asp Gly Phe Ser | Leu Arg Cys Gly Cys | Asn Ala Glu Leu Pro |
| 1                       | 5                   | 10                  |
| Gly Arg Gly Gly Asp Asp | Ala Ala Asp Arg Ala | Ile Gln Arg Phe Leu |
| 20                      | 25                  | 30                  |
| Arg Thr Gly Ala Ala Val | Arg Tyr Lys Val Met | Lys Asn Trp Gly Val |
| 35                      | 40                  | 45                  |
| Ile Gly Gly Ile Ala Ala | Ala Leu Ala Ala Gly | Ile Tyr Val Ile Trp |
| 50                      | 55                  | 60                  |
| Gly Pro Ile Thr Glu Arg | Lys Lys Arg Arg Lys | Gly Leu Val Pro Gly |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Val | Asn | Leu | Gly | Asn | Thr | Cys | Phe | Met | Asn | Ser | Leu | Leu | Gln | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Ser | Ala | Cys | Pro | Ala | Phe | Ile | Arg | Trp | Leu | Glu | Glu | Phe | Thr | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Tyr | Ser | Arg | Asp | Gln | Lys | Glu | Pro | Pro | Ser | His | Gln | Tyr | Leu | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Thr | Leu | Leu | His | Leu | Leu | Lys | Ala | Leu | Ser | Cys | Gln | Glu | Val | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Asp | Glu | Val | Leu | His | Ala | Ser | Cys | Leu | Leu | Asp | Val | Leu | Arg | Met |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Tyr | Arg | Trp | Gln | Ile | Ser | Ser | Phe | Glu | Glu | Gln | Asp | Ala | His | Glu | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Phe | His | Val | Ile | Thr | Ser | Ser | Leu | Glu | Asp | Glu | Arg | Asp | Arg | Gln | Pro |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Val | Thr | His | Leu | Phe | Asp | Val | His | Ser | Leu | Glu | His | Ser | Gln | Lys |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Xaa | Leu | Pro | Lys | Gln | Ile | Thr | Cys | Arg | Thr | Arg | Gly | Ser | Pro | His | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Ser | Asn | His | Trp | Lys | Ser | Gln | His | Pro | Phe | His | Gly | Arg | Leu | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Ser | Asn | Met | Val | Cys | Lys | His | Cys | Glu | His | Gln | Ser | Pro | Val | Arg | Phe |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Asp | Thr | Phe | Asp | Ser | Leu | Ser | Leu | Ser | Ile | Pro | Ala | Ala | Thr | Trp | Gly |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| His | Pro | Leu | Thr | Leu | Asp | His | Cys | Leu | His | His | Phe | Ile | Ser | Ser | Glu |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Ser | Val | Arg | Asp | Val | Val | Cys | Asp | Asn | Cys | Thr | Lys | Ile | Glu | Ala | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gly | Thr | Leu | Asn | Gly | Glu | Lys | Val | Glu | His | Gln | Arg | Thr | Thr | Phe | Val |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Lys | Gln | Leu | Lys | Leu | Gly | Lys | Leu | Pro | Gln | Cys | Leu | Cys | Ile | His | Leu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Gln | Arg | Leu | Ser | Trp | Ser | Ser | His | Gly | Thr | Pro | Leu | Lys | Arg | His | Glu |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| His | Val | Gln | Phe | Asn | Glu | Phe | Leu | Met | Met | Asp | Ile | Tyr | Lys | Tyr | His |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Leu | Leu | Gly | His | Lys | Pro | Ser | Gln | His | Asn | Pro | Lys | Leu | Asn | Lys | Asn |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Gly | Pro | Thr | Leu | Glu | Leu | Gln | Asp | Gly | Pro | Gly | Ala | Pro | Thr | Pro |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     | 400 |     |
| Gly | Leu | Asn | Gln | Pro | Gly | Ala | Pro | Lys | Thr | Gln | Ile | Phe | Met | Asn | Gly |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Ala | Cys | Ser | Pro | Ser | Leu | Leu | Pro | Thr | Leu | Ser | Ala | Pro | Met | Pro | Phe |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Pro | Leu | Pro | Val | Val | Pro | Asp | Tyr | Ser | Ser | Ser | Thr | Tyr | Leu | Phe | Arg |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |
| Leu | Met | Gly | Ser | Cys | Arg | Pro | Pro | Trp | Glu | Thr | Trp | His | Ser | Gly | Thr |
| 450 |     |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     |
| Leu | Cys | Ser | Phe | Thr | Asp | Gly | Pro | His | Leu |     |     |     |     |     |     |
| 465 |     |     |     |     | 470 |     |     |     | 474 |     |     |     |     |     |     |

&lt;210&gt; 3396

&lt;211&gt; 579

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(570)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3396

Thr Gln Glu Ala Gly Leu Ile Phe Phe Ser Pro Pro Phe Ser Leu Ser  
 1 5 10 15  
 Leu Ser Leu Ser Leu Pro Leu Ser Leu Phe Leu Leu Ser His Pro His  
 20 25 30  
 Ser Arg Thr Pro Pro Asn Arg Thr Pro Arg Arg Thr Arg Ile Pro Gln  
 35 40 45  
 Arg Pro Ala Val Met Tyr Ser Pro Leu Cys Leu Thr Gln Asp Glu Phe  
 50 55 60  
 His Pro Phe Ile Glu Ala Leu Leu Pro His Val Arg Ala Phe Ala Tyr  
 65 70 75 80  
 Thr Trp Phe Asn Leu Gln Ala Arg Lys Arg Lys Tyr Phe Lys Lys His  
 85 90 95  
 Glu Lys Arg Met Ser Lys Glu Glu Glu Arg Ala Val Lys Asp Glu Leu  
 100 105 110  
 Leu Ser Glu Lys Pro Glu Val Lys Gln Lys Trp Ala Ser Arg Leu Leu  
 115 120 125  
 Ala Lys Leu Arg Lys Asp Ile Arg Pro Glu Tyr Arg Glu Asp Phe Val  
 130 135 140  
 Leu Thr Val Thr Gly Lys Lys Pro Pro Cys Cys Val Leu Ser Asn Pro  
 145 150 155 160  
 Asp Gln Lys Gly Lys Met Arg Arg Ile Asp Cys Leu Arg Gln Ala Asp  
 165 170 175  
 Lys Val Trp Arg Leu Asp Leu Val Met Val Ile Leu Phe Lys Gly Ile  
 180 185 190  
 Pro Leu Glu Ser Thr Asp Gly Glu Arg Leu Val Lys Ser Pro Gln Cys  
 195 200 205  
 Ser Asn Pro Gly Leu Cys Val Gln Pro His His Ile Gly Val Ser Val  
 210 215 220  
 Lys Glu Leu Asp Leu Tyr Leu Ala Tyr Phe Val His Ala Ala Asp Ser  
 225 230 235 240  
 Ser Gln Ser Glu Ser Pro Ser Gln Ala Lys Xaa Arg Xaa His Xaa Gly  
 245 250 255  
 Pro Ala Arg Lys Trp Asp Ile Trp Gly Phe Gln Asp Ser Phe Val Thr  
 260 265 270  
 Ser Gly Val Phe Ser Val Thr Xaa Ala Xaa Leu Arg Val Ser Gln Thr  
 275 280 285  
 Pro Ile Ala Ala Gly Thr Gly Pro Asn Phe Ser Leu Ser Asp Leu Glu  
 290 295 300  
 Ser Ser Ser Tyr Tyr Ser Met Ser Pro Gly Ala Met Arg Arg Ser Leu  
 305 310 315 320  
 Pro Ser Thr Ser Ser Thr Ser Ser Thr Lys Arg Leu Lys Ser Val Glu  
 325 330 335  
 Asp Glu Met Asp Ser Pro Gly Glu Glu Pro Phe Tyr Thr Gly Gln Gly  
 340 345 350  
 Arg Ser Pro Gly Ser Gly Ser Gln Ser Ser Gly Trp His Glu Val Glu  
 355 360 365  
 Pro Gly Met Pro Ser Pro Thr Thr Leu Lys Lys Ser Glu Lys Ser Gly  
 370 375 380  
 Phe Ser Ser Pro Ser Pro Ser Gln Thr Ser Ser Leu Gly Thr Ala Phe  
 385 390 395 400  
 Thr Gln His His Arg Pro Val Ile Thr Gly Thr Gln Ser Lys Phe His  
 405 410 415  
 Ile Ala Thr Pro Ser Ile Leu His Phe Pro Arg His Ser Pro Phe Phe  
 420 425 430  
 Gln Gln Pro Gly Pro Tyr Phe Ser His Pro Ala Ile Arg Tyr His Pro  
 435 440 445  
 Gln Glu Thr Leu Lys Glu Phe Val Gln Leu Val Cys Pro Asp Ala Gly  
 450 455 460  
 Gln Gln Ala Gly Gln Pro Asn Gly Ser Ser Gln Gly Lys Val His Asn  
 465 470 475 480  
 Pro Phe Leu Pro Thr Pro Met Leu Pro Pro Pro Pro Pro Pro Met  
 485 490 495  
 Ala Arg Pro Val Pro Leu Pro Val Pro Asp Thr Lys Pro Pro Thr Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 500 |     |     |     |     | 505 |     |     |     | 510 |     |     |     |  |  |
| Ser | Thr | Glu | Gly | Gly | Ala | Ala | Ser | Pro | Thr | Ser | Pro | Thr | Thr | Arg | Ser |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Pro | Gly | Arg | Thr | Arg | Pro | Gln | Gln | Pro | Phe | Leu | Ser | Tyr | Gly | Pro | Pro |  |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |  |
| Xaa | Pro | Ser | Asn | Ala | Leu | Ile | Gly | Gly | Gly | Gly | Gly | Gly | Ala | Gly | Glu |  |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |  |
| Arg | Ala | Gly | Glu | Arg | Ala | Asp | Leu | Glu | Met |     |     |     |     |     |     |  |  |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     |     |  |  |

&lt;210&gt; 3397

&lt;211&gt; 668

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(666)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3397

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Thr | Gly | Thr | Leu | Thr | Glu | Asp | Gly | Leu | Asp | Val | Met | Gly | Val | Val | Pro |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Leu | Lys | Gly | Gln | Ala | Phe | Leu | Pro | Leu | Val | Pro | Glu | Pro | Arg | Arg | Leu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Pro | Val | Gly | Pro | Leu | Leu | Arg | Ala | Leu | Ala | Thr | Cys | His | Ala | Leu | Ser |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Arg | Leu | Gln | Asp | Thr | Pro | Val | Gly | Asp | Pro | Met | Asp | Leu | Lys | Met | Val |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Glu | Ser | Thr | Gly | Trp | Val | Leu | Glu | Glu | Glu | Pro | Ala | Ala | Asp | Ser | Ala |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |  |  |
| Phe | Gly | Thr | Gln | Val | Leu | Ala | Val | Met | Arg | Pro | Pro | Leu | Trp | Glu | Pro |  |  |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Gln | Leu | Gln | Ala | Met | Glu | Glu | Pro | Pro | Val | Pro | Val | Ser | Val | Leu | His |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Arg | Phe | Pro | Phe | Ser | Ser | Ala | Leu | Gln | Arg | Met | Ser | Val | Val | Val | Ala |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |  |  |
| Trp | Pro | Gly | Ala | Thr | Gln | Pro | Glu | Ala | Tyr | Val | Lys | Gly | Ser | Pro | Glu |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | Val | Ala | Gly | Leu | Cys | Asn | Pro | Glu | Thr | Val | Pro | Thr | Asp | Phe | Ala |  |  |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |  |  |
| Gln | Met | Leu | Gln | Ser | Tyr | Thr | Ala | Ala | Gly | Tyr | Arg | Val | Val | Ala | Leu |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Ala | Ser | Lys | Pro | Leu | Pro | Ser | Val | Pro | Ser | Leu | Glu | Ala | Ala | Gln | Gln |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |  |  |
| Leu | Thr | Arg | Asp | Thr | Val | Glu | Gly | Asp | Leu | Ser | Leu | Leu | Gly | Leu | Leu |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |  |
| Val | Met | Arg | Asn | Leu | Leu | Lys | Pro | Gln | Thr | Thr | Pro | Val | Ile | Gln | Ala |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu | Arg | Arg | Thr | Arg | Ile | Arg | Ala | Val | Met | Val | Thr | Gly | Asp | Asn | Leu |  |  |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     | 240 |  |  |
| Gln | Thr | Ala | Val | Thr | Val | Ala | Arg | Gly | Cys | Gly | Met | Val | Ala | Pro | Gln |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Glu | His | Leu | Ile | Ile | Val | His | Ala | Thr | His | Pro | Glu | Arg | Gly | Gln | Pro |  |  |
|     |     | 260 |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |  |  |
| Ala | Ser | Leu | Glu | Phe | Leu | Pro | Met | Glu | Ser | Pro | Thr | Ala | Val | Asn | Gly |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Val | Lys | Asp | Pro | Asp | Gln | Ala | Ala | Ser | Tyr | Thr | Val | Glu | Pro | Asp | Pro |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Arg | Ser | Arg | His | Leu | Ala | Leu | Ser | Gly | Pro | Thr | Phe | Gly | Ile | Ile | Val |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     |     | 320 |  |  |
| Lys | His | Phe | Pro | Lys | Leu | Leu | Pro | Lys | Val | Leu | Val | Gln | Gly | Thr | Val |  |  |

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<210> 3398
<211> 207
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(204)
<223> Xaa = any amino acid or nothing
```

5080

```

      50              55              60
Asn Arg Pro Gly Gln Gly Glu Pro Gly Leu Ile Ser Pro Lys Pro Val
 65              70              75              80
Thr Glu Val Leu Pro Asp Val Gln Gly Ala Pro Val Pro Val Pro Pro
      85              90              95
Leu Pro Thr Pro Pro Ser Leu Pro His Leu Gln Asn Gln Pro Pro Thr
      100              105              110
Val Gln His Tyr Leu Leu Ser Phe Ser Trp Lys Pro Ser Gln Gly Pro
      115              120              125
Glu Xaa Arg Ala Xaa Pro Ser Pro Leu Pro Pro Ala Ala Met Arg Pro
      130              135              140
Asp Gly Xaa Pro Gly Pro Ala Ser Gln Gly Pro Asp Gln Pro Gly Pro
145              150              155              160
Cys Pro Pro Ala Ser Leu Pro Thr Ser Pro Pro Gly Lys Gly Phe Gln
      165              170              175
Lys Thr Glu Thr Arg Lys His Pro Pro Pro Arg Gln Gln His Lys Pro
      180              185              190
Lys Cys Thr Ala Asn Arg Pro Leu Ala Ser Phe Leu
      195              200              204

```

```

<210> 3399
<211> 62
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(62)
<223> Xaa = any amino acid or nothing

```

```

      <400> 3399
His His His His His His His His His His His His His His Leu Val Ala
  1              5              10              15
Phe Gly Lys Val Gln Xaa Leu Gln Asn Ser Pro Ser Ser Ser Ser Ser
      20              25              30
Ser Ser Ser Gly Cys Phe Trp Gln Ala Arg Phe Ser Ser Tyr Arg Thr
      35              40              45
Leu His His His His His His His His His His His His His His
      50              55              60              62

```

```

<210> 3400
<211> 509
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(501)
<223> Xaa = any amino acid or nothing

```

```

      <400> 3400
Pro Phe Leu Ser Val His Arg Ser Pro His Gly Pro Ser Lys Leu Cys
  1              5              10              15
Asp Asp Pro Gln Ala Ser Leu Val Pro Glu Pro Val Pro Gly Gly Cys
      20              25              30
Gln Glu Pro Glu Glu Met Ser Trp Pro Pro Ser Gly Glu Ile Ala Ser
      35              40              45
Pro Pro Glu Leu Pro Ser Ser Pro Pro Pro Gly Leu Pro Glu Val Ala
      50              55              60
Pro Asp Ala Thr Ser Thr Gly Leu Pro Asp Thr Pro Ala Ala Pro Glu

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Ser | Thr | Asn | Tyr | Pro | Val | Glu | Cys | Thr | Glu | Gly | Ser | Ala | Gly | Pro |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln | Ser | Leu | Pro | Leu | Pro | Ile | Leu | Glu | Pro | Val | Lys | Asn | Pro | Cys | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Lys | Asp | Gln | Thr | Pro | Leu | Gln | Leu | Ser | Val | Glu | Asp | Thr | Thr | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Asn | Thr | Lys | Pro | Cys | Pro | Pro | Thr | Pro | Thr | Thr | Pro | Glu | Thr | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Ser | Ser | Thr | Pro | Cys | Ser | Ala | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Thr | Pro | Ser | Ser | Leu | Phe | Pro | Ser | Ser | Leu | Glu | Ser | Ser | Ser | Glu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     |     | 175 |
| Gln | Lys | Phe | Tyr | Asn | Phe | Val | Ile | Leu | His | Ala | Arg | Ala | Asp | Glu | His |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ile | Ala | Leu | Arg | Val | Ser | Gly | Arg | Ser | Trp | Glu | Ala | Leu | Gly | Val | Pro |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asp | Gly | Ala | Thr | Phe | Cys | Glu | Asp | Phe | Gln | Val | Pro | Gly | Arg | Gly | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Ser | Cys | Leu | Gln | Asp | Ala | Ile | Asp | His | Ser | Ala | Phe | Ile | Ile | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Leu | Thr | Ser | Asn | Phe | Asp | Cys | Arg | Leu | Ser | Leu | His | Gln | Val | Asn |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Gln | Ala | Met | Met | Ser | Asn | Leu | Thr | Arg | Gln | Gly | Ser | Gln | Asp | Cys | Val |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ile | Pro | Phe | Leu | Pro | Leu | Glu | Ser | Ser | Pro | Ala | Arg | Leu | Ser | Ser | Asp |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Ala | Ser | Leu | Leu | Ser | Gly | Leu | Val | Arg | Leu | Asp | Glu | His | Ser | Gln |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ile | Phe | Ala | Arg | Lys | Val | Ala | Asn | Thr | Phe | Lys | Pro | His | Arg | Leu | Gln |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ala | Arg | Lys | Ala | Met | Trp | Arg | Lys | Glu | Gln | Asp | Thr | Arg | Ala | Leu | Arg |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Glu | Gln | Ser | Gln | His | Leu | Asp | Gly | Glu | Arg | Met | Gln | Ala | Ala | Ala | Leu |
|     |     |     | 340 |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Asn | Ala | Ala | Tyr | Ser | Ala | Tyr | Leu | Gln | Ser | Tyr | Leu | Ser | Tyr | Gln | Ala |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gln | Met | Glu | Gln | Leu | Gln | Val | Ala | Phe | Gly | Ser | His | Met | Ser | Phe | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Thr | Gly | Ala | Pro | Tyr | Gly | Ala | Arg | Met | Pro | Phe | Gly | Gly | Gln | Val | Pro |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Gly | Ala | Pro | Pro | Pro | Phe | Pro | Thr | Trp | Pro | Gly | Cys | Pro | Gln | Pro |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Pro | Pro | Leu | His | Ala | Trp | Gln | Ala | Gly | Thr | Pro | Pro | Pro | Pro | Ser | Pro |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gln | Pro | Ala | Ala | Phe | Pro | Gln | Ser | Leu | Pro | Phe | Pro | Ala | Val | Pro | Lys |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Pro | Phe | Pro | Thr | Ala | Ser | Thr | Ala | Pro | Pro | Ser | Glu | Pro | Lys | Gly | Trp |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gln | Pro | Leu | Ile | Ile | His | His | Ala | Gln | Met | Val | Thr | Ser | Trp | Gly | Xaa |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asn | Lys | His | Met | Trp | Asn | Gln | Arg | Gly | Ser | Gln | Ala | Pro | Glu | Asp | Lys |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |
| Thr | Gln | Glu | Ala | Glu |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 500 | 501 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3401

&lt;211&gt; 413

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature



&lt;222&gt; (1)...(411)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3401

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Trp | Gly | Trp | Leu | Gly | Ala | Ala | Gln | Pro | Pro | Glu | Glu | Glu | Ala | Glu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ala | Glu | Asp | Gln | Glu | Ser | Pro | Ser | Ser | Leu | Cys | Arg | Glu | Ala | Leu | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ile | Lys | Lys | Glu | Ile | Ser | Pro | Leu | Phe | Ile | Gly | Met | Glu | Lys | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Val | Gly | Gly | Leu | Glu | Leu | Thr | Glu | Gln | Thr | Pro | Ala | Leu | Leu | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Met | Ala | Met | Ala | Thr | Ser | Leu | Met | Asp | Ile | Gly | Asp | Ser | Phe | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| His | Pro | Ala | Cys | Pro | Leu | Val | Ser | Arg | Ser | Arg | Asn | Ser | Pro | Val | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Asp | Asp | Asp | Asp | Asp | Asp | Val | Val | Phe | Ile | Glu | Ser | Ile | Gln | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Ser | Ile | Ser | Ala | Pro | Ala | Ile | Ala | Asp | Gln | Arg | Asn | Phe | Ile | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Ser | Ser | Lys | Asn | Glu | Lys | Pro | Gln | Gly | Asn | Tyr | Ser | Val | Ile | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Ser | Ser | Arg | Asp | Leu | Ala | Ser | Gln | Lys | Gly | Asn | Ile | Ser | Glu | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Val | Ile | Asp | Asp | Glu | Glu | Asp | Ile | Glu | Thr | Asn | Gly | Gly | Ala | Glu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Lys | Lys | Ser | Ser | Cys | Phe | Ile | Glu | Trp | Gly | Leu | Pro | Gly | Thr | Lys | Asn |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Lys | Thr | Asn | Asp | Leu | Asp | Phe | Ser | Thr | Ser | Ser | Leu | Ser | Arg | Ser | Lys |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Asn | Ala | Gly | Met | Gly | Asn | Ser | Gly | Ile | Thr | Thr | Glu | Leu | Thr | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Tyr | Ile | Ile | Thr | Asn | Val | Thr | Thr | Leu | Glu | Thr | Gly | Ile | Ser | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Asn | Ala | Gly | Gln | Asp | Val | Asn | Ile | Ile | Ile | Thr | Tyr | Lys | Thr | Ser |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Leu | Xaa | Asn | Thr | Asn | Leu | Gly | Asp | Val | Ala | Lys | Gly | Leu | Gln | Ser | Ser |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Asn | Phe | Gly | Val | Asn | Ile | Gln | Thr | Tyr | Thr | Pro | Ser | Leu | Thr | Pro | Gln |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Lys | Thr | Gly | Val | Asn | Leu | Leu | Thr | Leu | Val | Glu | Xaa | Met | Trp | Gln |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Glu | Thr | Tyr | Phe | Arg | Met | Glu | Asn | Leu | Gln | Leu | Ile | Ile | Cys | Pro | Glu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Asp | Ala | Ser | Thr | Lys | Lys | Ala | Asn | Val | Ile | Leu | Pro | Val | Glu | Ser | Ser |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Lys | Ser | Phe | Gln | Glu | Phe | Tyr | Ser | Thr | Ser | Cys | Leu | Ser | Pro | Cys | Glu |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Asn | Asn | Trp | Asn | Leu | Lys | Lys | Gly | Val | Phe | Asn | Lys | Ser | Arg | Cys | Thr |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ile | Cys | Ser | Lys | Leu | Ala | Glu | Val | Trp | Ile | Phe | Ile | Pro | Lys | Leu | Leu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Phe | Arg | Leu | Thr | Val | Ile | Ile | Leu | Thr | Phe | Lys | Cys | Tyr | Tyr | Val | Leu |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Phe | His | Leu | His | Asn | Ala | Arg | Val | Leu | Asp | Val |     |     |     |     |     |
|     |     |     | 405 |     |     |     |     | 410 | 411 |     |     |     |     |     |     |

&lt;210&gt; 3402

&lt;211&gt; 413

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(411)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3402

```

Glu Trp Gly Trp Leu Gly Ala Ala Gln Pro Pro Glu Glu Glu Ala Glu
 1          5          10          15
Ala Glu Asp Gln Glu Ser Pro Ser Ser Leu Cys Arg Glu Ala Leu Ala
          20          25          30
Glu Ile Lys Lys Glu Ile Ser Pro Leu Phe Ile Gly Met Glu Lys Cys
          35          40          45
Ser Val Gly Gly Leu Glu Leu Thr Glu Gln Thr Pro Ala Leu Leu Gly
          50          55          60
Asn Met Ala Met Ala Thr Ser Leu Met Asp Ile Gly Asp Ser Phe Gly
          65          70          75          80
His Pro Ala Cys Pro Leu Val Ser Arg Ser Arg Asn Ser Pro Val Glu
          85          90          95
Asp Asp Asp Asp Asp Asp Val Val Phe Ile Glu Ser Ile Gln Pro
          100          105          110
Pro Ser Ile Ser Ala Pro Ala Ile Ala Asp Gln Arg Asn Phe Ile Phe
          115          120          125
Ala Ser Ser Lys Asn Glu Lys Pro Gln Gly Asn Tyr Ser Val Ile Pro
          130          135          140
Pro Ser Ser Arg Asp Leu Ala Ser Gln Lys Gly Asn Ile Ser Glu Thr
          145          150          155          160
Ile Val Ile Asp Asp Glu Glu Asp Ile Glu Thr Asn Gly Gly Ala Glu
          165          170          175
Lys Lys Ser Ser Cys Phe Ile Glu Trp Gly Leu Pro Gly Thr Lys Asn
          180          185          190
Lys Thr Asn Asp Leu Asp Phe Ser Thr Ser Ser Leu Ser Arg Ser Lys
          195          200          205
Val Asn Ala Gly Met Gly Asn Ser Gly Ile Thr Thr Glu Leu Thr Leu
          210          215          220
Lys Tyr Ile Ile Thr Asn Val Thr Thr Leu Glu Thr Gly Ile Ser Ser
          225          230          235          240
Val Asn Ala Gly Gln Asp Val Asn Ile Ile Ile Thr Tyr Lys Thr Ser
          245          250          255
Leu Xaa Asn Thr Asn Leu Gly Asp Val Ala Lys Gly Leu Gln Ser Ser
          260          265          270
Asn Phe Gly Val Asn Ile Gln Thr Tyr Thr Pro Ser Leu Thr Pro Gln
          275          280          285
Thr Lys Thr Gly Val Asn Leu Leu Thr Leu Val Glu Xaa Met Trp Gln
          290          295          300
Glu Thr Tyr Phe Arg Met Glu Asn Leu Gln Leu Ile Ile Cys Pro Glu
          305          310          315          320
Asp Ala Ser Thr Lys Lys Ala Asn Val Ile Leu Pro Val Glu Ser Ser
          325          330          335
Lys Ser Phe Gln Glu Phe Tyr Ser Thr Ser Cys Leu Ser Pro Cys Glu
          340          345          350
Asn Asn Trp Asn Leu Lys Lys Gly Val Phe Asn Lys Ser Arg Cys Thr
          355          360          365
Ile Cys Ser Lys Leu Ala Glu Val Trp Ile Phe Ile Pro Lys Leu Leu
          370          375          380
Phe Arg Leu Thr Val Ile Ile Leu Thr Phe Lys Cys Tyr Tyr Val Leu
          385          390          395          400
Phe His Leu His Asn Ala Arg Val Leu Asp Val
          405          410 411

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&lt;210&gt; 3403

&lt;211&gt; 724

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(716)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3403

```

Ser Arg His Cys Thr Pro Ala Glu Arg Gln Asn Glu Thr His Arg Ala
 1          5          10          15
Pro Asp Phe Ala Met Ser Ala Val Leu Gly His Gln Pro Pro Phe Phe
          20          25          30
Pro Ala Leu Thr Leu Pro Pro Asn Gly Ala Ala Ala Leu Ser Leu Pro
          35          40          45
Gly Ala Leu Ala Lys Pro Ile Met Asp Gln Leu Val Gly Ala Ala Glu
          50          55          60
Thr Gly Ile Pro Phe Ser Ser Leu Gly Pro Gln Ala His Leu Arg Pro
          65          70          75          80
Leu Lys Thr Met Glu Pro Glu Glu Glu Val Glu Asp Asp Pro Lys Val
          85          90          95
His Leu Glu Ala Lys Glu Leu Trp Asp Gln Phe His Lys Arg Gly Thr
          100          105          110
Glu Met Val Ile Thr Lys Ser Gly Arg Arg Met Phe Pro Pro Phe Lys
          115          120          125
Val Arg Cys Ser Gly Leu Asp Lys Lys Ala Lys Tyr Ile Leu Leu Met
          130          135          140
Asp Ile Ile Ala Ala Asp Asp Cys Arg Tyr Lys Phe His Asn Ser Arg
          145          150          155          160
Trp Met Val Ala Gly Lys Ala Asp Pro Glu Met Pro Lys Arg Met Tyr
          165          170          175
Ile His Pro Asp Ser Pro Ala Thr Gly Glu Gln Trp Met Ser Lys Val
          180          185          190
Val Thr Phe His Lys Leu Lys Leu Thr Asn Asn Ile Ser Asp Lys His
          195          200          205
Gly Phe Thr Ile Leu Asn Ser Met His Lys Tyr Gln Pro Arg Phe His
          210          215          220
Ile Val Arg Ala Asn Asp Ile Leu Lys Leu Pro Tyr Ser Thr Phe Arg
          225          230          235          240
Thr Tyr Leu Phe Pro Glu Thr Glu Phe Ile Ala Val Thr Ala Tyr Gln
          245          250          255
Asn Asp Lys Ile Thr Gln Leu Lys Ile Asp Asn Asn Pro Phe Ala Lys
          260          265          270
Gly Phe Arg Asp Thr Gly Asn Gly Arg Arg Glu Lys Arg Lys Gln Leu
          275          280          285
Thr Leu Gln Ser Met Arg Val Phe Asp Glu Arg His Lys Lys Glu Asn
          290          295          300
Gly Thr Ser Asp Glu Ser Ser Ser Glu Gln Ala Ala Phe Asn Cys Phe
          305          310          315          320
Ala Gln Ala Ser Ser Pro Ala Ala Pro Leu Xaa Arg Thr Ser Asn Leu
          325          330          335
Lys Asp Phe Ser Pro Ser Arg Gly Xaa Arg Ala Thr Pro Glu Ala Glu
          340          345          350
Glu Gln Arg Gly Ser Thr Ala Pro Arg Pro Ala Thr Arg Ala Lys Ile
          355          360          365
Ser Pro His Pro Arg Arg Arg Ser Pro Ala Val Thr Arg Ala Ala Pro
          370          375          380
Ala Val Lys Ala His Leu Phe Ala Ala Glu Arg Pro Arg Asp Ser Gly
          385          390          395          400
Arg Leu Asp Lys Ala Ser Pro Asp Ser Arg His Ser Pro Ala Thr Ile
          405          410          415
Ser Ser Ser Thr Arg Gly Leu Gly Ala Glu Glu Arg Arg Ser Pro Val
          420          425          430
Arg Glu Gly Gln Ala Pro Ala Lys Val Glu Glu Ala Arg Ala Leu Pro

```

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      435      440      445
Gly Lys Glu Ala Phe Ala Pro Leu Thr Val Gln Thr Asp Ala Ala Ala
  450      455      460
Ala His Leu Ala Gln Gly Pro Leu Pro Gly Leu Gly Phe Ala Pro Gly
  465      470      475      480
Leu Ala Gly Gln Gln Phe Phe Asn Gly His Pro Leu Phe Leu His Pro
      485      490      495
Ser Gln Phe Ala Met Gly Gly Ala Phe Ser Ser Met Ala Ala Ala Gly
      500      505      510
Met Gly Pro Leu Leu Ala Thr Val Ser Gly Ala Ser Thr Gly Val Ser
      515      520      525
Gly Leu Asp Ser Thr Ala Met Ala Ser Ala Ala Ala Ala Gln Gly Leu
      530      535      540
Ser Gly Ala Ser Ala Ala Thr Leu Pro Phe His Leu Gln Gln His Val
  545      550      555      560
Leu Ala Ser Gln Gly Leu Ala Met Ser Pro Phe Gly Ser Leu Phe Pro
      565      570      575
Tyr Pro Tyr Thr Tyr Met Ala Ala Ala Ala Ala Ala Ser Ser Ala Ala
      580      585      590
Ala Ser Ala Ser Val His Arg Thr Pro Phe Asn Leu Asn Thr Met Arg
      595      600      605
Pro Arg Leu Arg Tyr Ser Pro Tyr Ser Ile Pro Val Pro Val Pro Asp
      610      615      620
Gly Ser Ser Leu Leu Thr Thr Ala Leu Pro Ser Met Ala Ala Ala Ala
  625      630      635      640
Gly Pro Leu Asp Gly Lys Ala Ala Ala Leu Ala Ala Ser Pro Ala Ser
      645      650      655
Val Ala Val Asp Ser Gly Ser Glu Leu Asn Ser Arg Ser Ser Thr Leu
      660      665      670
Ser Ser Ser Ser Met Ser Leu Ser Pro Lys Leu Cys Ala Glu Lys Glu
      675      680      685
Ala Ala Thr Ser Glu Leu Gln Ser Ile Gln Arg Leu Val Ser Gly Leu
      690      695      700
Glu Ala Lys Pro Asp Arg Ser Arg Ser Ala Ser Pro
  705      710      715 716

```

&lt;210&gt; 3404

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(74)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3404

```

Leu Lys Lys Phe Leu Glu Val Pro Gln Ser Tyr Ser Leu Leu Leu Ser
  1      5      10      15
Ser Pro Phe Leu Gln Trp Arg Ala Xaa Arg Pro Gln Asn Ala Ile Gly
      20      25      30
Xaa Gln Phe Ile Ile Lys Thr Leu Val Phe Phe Gly Ile Met Arg Ser
      35      40      45
Ala Gly Asp Val Leu Ser Thr Gln Val Ser Cys Ala Leu Arg Ile Met
      50      55      60
Arg Thr Ala Gly Cys Ser His Ser Ser Pro
  65      70      74

```

&lt;210&gt; 3405

&lt;211&gt; 331

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(330)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3405

```

Pro Arg Pro Pro Thr Gln Arg Leu Ser Arg Phe Ala Pro Pro Cys Arg
 1           5           10           15
Thr Ala Glu Phe Pro Phe Arg Arg Arg Ala Val Val Thr Arg Pro Ala
           20           25           30
Pro Pro Arg Ala Cys Thr Val Val Gly Arg Ser Ser Pro Val Thr Gly
           35           40           45
Leu Ala Val Gly Ala Ala Val Ala Met Leu Thr Val Ala Ala Arg Ser
           50           55           60
Arg Pro Phe Ala Pro Val Leu Ser Ala Thr Ser Arg Gly Val Ala Gly
65           70           75           80
Ala Leu Thr Pro Xaa Met Gln Ala Thr Val Pro Ala Thr Pro Glu Gln
           85           90           95
Pro Val Leu Asp Leu Lys Arg Pro Phe Leu Ser Arg Glu Ser Leu Ser
           100          105          110
Gly Gln Ala Val Arg Arg Pro Leu Val Ala Ser Val Gly Leu Asn Val
           115          120          125
Pro Ala Ser Val Cys Tyr Ser His Thr Asp Ile Lys Val Pro Asp Phe
130          135          140
Ser Glu Tyr Arg Arg Leu Glu Val Leu Asp Ser Thr Lys Ser Ser Arg
145          150          155          160
Glu Ser Ser Glu Ala Arg Lys Gly Phe Ser Tyr Leu Val Thr Gly Val
           165          170          175
Thr Thr Val Gly Val Ala Tyr Ala Ala Lys Asn Ala Val Thr Gln Phe
           180          185          190
Val Ser Ser Met Ser Ala Ser Ala Asp Val Leu Ala Leu Ala Lys Ile
           195          200          205
Glu Ile Lys Leu Ser Asp Ile Pro Glu Gly Lys Asn Met Ala Phe Lys
210          215          220
Trp Arg Gly Lys Pro Leu Phe Val Arg His Arg Thr Gln Lys Glu Ile
225          230          235          240
Glu Gln Glu Ala Ala Val Glu Leu Ser Gln Leu Arg Asp Pro Gln His
           245          250          255
Asp Leu Asp Arg Val Lys Lys Pro Glu Trp Val Ile Leu Ile Gly Val
           260          265          270
Cys Thr His Leu Gly Cys Val Pro Ile Ala Asn Ala Gly Asp Phe Gly
           275          280          285
Gly Tyr Tyr Cys Pro Cys His Gly Ser His Tyr Asp Ala Ser Gly Arg
290          295          300
Ile Arg Leu Gly Pro Ala Pro Leu Asn Leu Glu Val Pro Thr Tyr Glu
305          310          315          320
Phe Thr Ser Asp Asp Met Val Ile Val Gly
           325          330

```

&lt;210&gt; 3406

&lt;211&gt; 864

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(863)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3406

Cys Leu Tyr Pro Asp Phe Cys Arg Ser Val Thr Cys Ala Met Pro Cys  
 1 5 10 15  
 Phe Thr His Arg Ser Cys Arg Glu Asp Pro Gly Thr Ser Glu Ser Arg  
 20 25 30  
 Glu Met Asp Pro Val Ala Phe Lys Asp Val Ala Val Asn Phe Thr Gln  
 35 40 45  
 Glu Glu Trp Ala Leu Leu Asp Ile Ser Gln Lys Asn Leu Tyr Arg Glu  
 50 55 60  
 Val Met Leu Glu Thr Phe Trp Asn Leu Thr Ser Ile Gly Lys Lys Trp  
 65 70 75 80  
 Lys Asp Gln Asn Ile Glu Tyr Glu Tyr Gln Asn Pro Arg Arg Asn Phe  
 85 90 95  
 Arg Ser Val Thr Glu Glu Lys Val Asn Glu Ile Lys Glu Asp Ser His  
 100 105 110  
 Cys Gly Glu Thr Phe Thr Pro Val Pro Asp Asp Arg Leu Asn Phe Gln  
 115 120 125  
 Lys Lys Lys Ala Ser Pro Glu Val Lys Ser Cys Asp Ser Phe Val Cys  
 130 135 140  
 Glu Val Gly Leu Gly Asn Ser Ser Ser Asn Met Asn Ile Arg Gly Asp  
 145 150 155 160  
 Thr Gly His Lys Ala Cys Glu Cys Gln Glu Tyr Gly Pro Lys Pro Trp  
 165 170 175  
 Lys Ser Gln Gln Pro Lys Lys Ala Phe Arg Tyr His Pro Ser Leu Arg  
 180 185 190  
 Thr Gln Glu Arg Asp His Thr Gly Lys Lys Pro Tyr Ala Cys Lys Glu  
 195 200 205  
 Cys Gly Lys Asn Ile Ile Tyr His Ser Ser Ile Gln Arg His Met Val  
 210 215 220  
 Val His Ser Gly Asp Gly Pro Tyr Lys Cys Lys Phe Cys Gly Lys Ala  
 225 230 235 240  
 Phe His Trp Leu Ser Leu Tyr Leu Ile His Glu Arg Thr His Thr Gly  
 245 250 255  
 Glu Lys Pro Tyr Glu Cys Lys Gln Cys Gly Lys Ser Phe Ser Tyr Ser  
 260 265 270  
 Ala Thr His Arg Ile His Glu Arg Thr His Ile Gly Glu Lys Pro Tyr  
 275 280 285  
 Glu Cys Gln Glu Cys Gly Lys Ala Phe His Ser Pro Arg Ser Cys His  
 290 295 300  
 Arg His Glu Arg Ser His Met Gly Glu Lys Ala Tyr Gln Cys Lys Glu  
 305 310 315 320  
 Cys Gly Lys Ala Phe Met Cys Pro Arg Tyr Val Arg Arg His Glu Arg  
 325 330 335  
 Thr His Ser Arg Lys Lys Leu Tyr Glu Cys Lys Gln Cys Gly Lys Ala  
 340 345 350  
 Leu Ser Ser Leu Thr Ser Phe Gln Thr His Ile Arg Met His Ser Gly  
 355 360 365  
 Glu Arg Pro Tyr Glu Cys Lys Thr Cys Gly Lys Gly Phe Tyr Ser Ala  
 370 375 380  
 Lys Ser Phe Gln Arg His Glu Lys Thr His Ser Gly Glu Lys Pro Tyr  
 385 390 395 400  
 Lys Cys Lys Gln Cys Gly Lys Ala Phe Thr Arg Ser Gly Ser Phe Arg  
 405 410 415  
 Tyr His Glu Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Lys Gln  
 420 425 430  
 Cys Gly Lys Ala Phe Arg Ser Ala Pro Asn Leu Gln Ser His Gly Arg  
 435 440 445  
 Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Gly Lys Ala  
 450 455 460  
 Phe Ile Phe Val Asn Asn Leu Gln Ser His Glu Arg Thr Gln Thr His  
 465 470 475 480  
 Ile Arg Ile His Ser Gly Glu Arg Arg Tyr Lys Cys Lys Ile Cys Gly  
 485 490 495  
 Lys Gly Phe Tyr Cys Pro Lys Ser Phe Gln Arg His Glu Lys Thr His



```
<210> 3407
<211> 477
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(473)
<223> Xaa = any amino acid or nothing
```

5089

```
<210> 3408
<211> 1470
<212> PRT
<213> Homo sapiens

<221> misc feature
```

&lt;222&gt; (1) ... (1469)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3408

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ala | Arg | Asp | Arg | Leu | Ala | Gln | Ser | Arg | Ala | Lys | Glu | Lys | Glu | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Asn | Ser | Val | Ala | Ser | Glu | Leu | Ser | Ala | Arg | Gln | Glu | Glu | Ser | Glu | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | His | Lys | His | Leu | Ile | Glu | Leu | Arg | Arg | Glu | Phe | Lys | Lys | Asn | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Glu | Glu | Ile | Arg | Glu | Met | Val | Ala | Pro | Val | Leu | Lys | Ser | Phe | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Glu | Val | Val | Ala | Leu | Ser | Lys | Arg | Ser | Gln | Glu | Ala | Glu | Ala | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Phe | Leu | Ser | Val | Tyr | Lys | Gln | Leu | Ile | Glu | Ala | Pro | Ala | Leu | Trp | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Lys | Leu | Lys | Ser | Arg | Pro | Ala | Leu | Gly | Asp | Ser | Arg | Val | Gln | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Gln | His | Asp | Pro | Lys | Thr | Asp | Asn | Gln | Asn | Thr | Gln | Gln | Lys | Ala |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Phe | Lys | Glu | Gly | Trp | Leu | Ala | Glu | Ala | Ser | Glu | Arg | Glu | Ala | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Pro | Gly | Phe | Lys | Asp | Pro | Val | Pro | Val | Phe | Glu | Ala | Ala | Arg | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Asp | Asp | Arg | Leu | Gln | Pro | Pro | Ser | Phe | Asp | Pro | Ser | Gly | Gln | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Arg | Arg | Asp | Leu | His | Thr | Ser | Trp | Lys | Arg | Asn | Pro | Glu | Leu | Leu | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Lys | Ala | Leu | Lys | Ala | Thr | Gln | Ala | Glu | Leu | Leu | Glu | Leu | Arg | Arg |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Tyr | Asp | Glu | Glu | Ala | Ala | Ser | Lys | Ala | Asp | Glu | Val | Gly | Leu | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Met | Thr | Asn | Leu | Glu | Lys | Ala | Asn | Gln | Arg | Ala | Glu | Ala | Ala | Gln | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Glu | Val | Glu | Ser | Leu | Arg | Glu | Gln | Leu | Ala | Ser | Val | Asn | Ser | Ser | Ile |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Leu | Ala | Cys | Cys | Ser | Pro | Gln | Gly | Pro | Ser | Gly | Asp | Lys | Val | Asn |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Phe | Thr | Leu | Cys | Ser | Gly | Pro | Arg | Leu | Glu | Ala | Ala | Leu | Ala | Ser | Lys |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asp | Arg | Glu | Ile | Leu | Arg | Leu | Leu | Lys | Asp | Val | Gln | His | Leu | Gln | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Leu | Gln | Glu | Leu | Glu | Glu | Ala | Ser | Ala | Asn | Gln | Ile | Ala | Asp | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Arg | Gln | Leu | Thr | Ala | Lys | Ser | Glu | Ala | Ile | Glu | Lys | Leu | Glu | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Leu | Gln | Ala | Gln | Ser | Asp | Tyr | Glu | Glu | Ile | Lys | Thr | Glu | Leu | Ser |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ile | Leu | Lys | Ala | Met | Lys | Leu | Ala | Ser | Ser | Thr | Cys | Ser | Leu | Pro | Gln |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gly | Met | Ala | Lys | Pro | Glu | Asp | Ser | Leu | Leu | Ile | Ala | Lys | Glu | Ala | Phe |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Phe | Pro | Thr | Gln | Lys | Phe | Leu | Leu | Glu | Lys | Pro | Ser | Leu | Leu | Ala | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Pro | Glu | Glu | Asp | Pro | Ser | Glu | Asp | Asp | Ser | Ile | Lys | Asp | Ser | Leu | Gly |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Thr | Glu | Gln | Ser | Tyr | Pro | Ser | Pro | Gln | Gln | Leu | Pro | Pro | Pro | Pro | Gly |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Pro | Glu | Asp | Pro | Leu | Ser | Pro | Ser | Pro | Gly | Gln | Pro | Leu | Leu | Gly | Pro |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Ser | Leu | Gly | Pro | Asp | Gly | Thr | Arg | Thr | Phe | Ser | Leu | Ser | Pro | Phe | Pro |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ser | Leu | Ala | Ser | Gly | Glu | Arg | Leu | Met | Met | Pro | Pro | Ala | Ala | Phe | Lys |

|   |     |     |     |     |  |     |
|---|-----|-----|-----|-----|--|-----|
| 465   |     | 470 |     | 475 |  | 480 |
| Gly Glu Ala Gly Gly Leu Leu Val Phe Pro Pro Ala Phe Tyr Gly Ala |     |     |     |     |  |     |
|   | 485 |     | 490 |     |  | 495 |
| Lys Pro Pro Thr Ala Pro Ala Thr Pro Ala Pro Gly Pro Glu Pro Leu |     |     |     |     |  |     |
|   | 500 |     | 505 |     |  | 510 |
| Gly Gly Pro Glu Pro Ala Asp Gly Gly Gly Gly Ala Ala Gly Pro     |     |     |     |     |  |     |
|   | 515 |     | 520 |     |  | 525 |
| Gly Ala Glu Glu Glu Gln Leu Asp Thr Ala Glu Ile Ala Phe Gln Val |     |     |     |     |  |     |
|   | 530 |     | 535 |     |  | 540 |
| Lys Glu Gln Leu Leu Lys His Asn Ile Gly Gln Arg Val Phe Gly His |     |     |     |     |  |     |
|   | 545 |     | 550 |     |  | 555 |
| Tyr Val Leu Gly Leu Ser Gln Gly Ser Val Ser Glu Ile Leu Ala Arg |     |     |     |     |  |     |
|   | 565 |     | 570 |     |  | 575 |
| Pro Lys Pro Trp Arg Lys Leu His Gly Xaa Xaa Gly Lys Glu Pro Phe |     |     |     |     |  |     |
|   | 580 |     | 585 |     |  | 590 |
| Ile Lys Met Lys Gln Phe Leu Ser Asp Glu Gln Asn Val Leu Ala Leu |     |     |     |     |  |     |
|   | 595 |     | 600 |     |  | 605 |
| Arg Thr Ile Gln Val Arg Gln Arg Gly Ser Ile Thr Pro Arg Ile Arg |     |     |     |     |  |     |
|   | 610 |     | 615 |     |  | 620 |
| Thr Pro Glu Thr Gly Ser Asp Asp Ala Ile Lys Ser Ile Leu Glu Gln |     |     |     |     |  |     |
|   | 625 |     | 630 |     |  | 635 |
| Ala Lys Lys Glu Ile Glu Ser Gln Lys Gly Gly Glu Pro Lys Thr Ser |     |     |     |     |  |     |
|   | 645 |     | 650 |     |  | 655 |
| Val Ala Pro Leu Ser Ile Ala Asn Gly Thr Thr Pro Ala Ser Thr Ser |     |     |     |     |  |     |
|   | 660 |     | 665 |     |  | 670 |
| Glu Asp Ala Ile Lys Ser Ile Leu Glu Gln Ala Arg Arg Glu Met Gln |     |     |     |     |  |     |
|   | 675 |     | 680 |     |  | 685 |
| Ala Gln Gln Gln Ala Leu Leu Glu Met Glu Val Ala Pro Arg Gly Arg |     |     |     |     |  |     |
|   | 690 |     | 695 |     |  | 700 |
| Ser Val Pro Pro Ser Pro Pro Glu Arg Pro Ser Leu Ala Thr Ala Ser |     |     |     |     |  |     |
|   | 705 |     | 710 |     |  | 715 |
| Gln Asn Gly Ala Pro Ala Leu Val Lys Gln Glu Glu Gly Ser Gly Gly |     |     |     |     |  |     |
|   | 725 |     | 730 |     |  | 735 |
| Pro Ala Gln Ala Pro Leu Pro Val Leu Ser Pro Ala Ala Phe Val Gln |     |     |     |     |  |     |
|   | 740 |     | 745 |     |  | 750 |
| Ser Ile Ile Arg Lys Val Lys Ser Glu Ile Gly Asp Ala Gly Tyr Phe |     |     |     |     |  |     |
|   | 755 |     | 760 |     |  | 765 |
| Asp His His Trp Ala Ser Asp Arg Gly Leu Leu Ser Arg Pro Tyr Ala |     |     |     |     |  |     |
|   | 770 |     | 775 |     |  | 780 |
| Ser Val Ser Pro Ser Leu Ser Ser Ser Ser Ser Ser Gly Tyr Ser Gly |     |     |     |     |  |     |
|   | 785 |     | 790 |     |  | 795 |
| Gln Pro Asn Gly Arg Ala Trp Pro Arg Gly Asp Glu Ala Pro Val Pro |     |     |     |     |  |     |
|   | 805 |     | 810 |     |  | 815 |
| Pro Glu Asp Glu Ala Ala Ala Gly Ala Glu Asp Glu Pro Pro Arg Thr |     |     |     |     |  |     |
|   | 820 |     | 825 |     |  | 830 |
| Gly Glu Leu Lys Ala Glu Gly Ala Thr Ala Glu Ala Gly Ala Arg Leu |     |     |     |     |  |     |
|   | 835 |     | 840 |     |  | 845 |
| Pro Tyr Tyr Pro Ala Tyr Val Pro Arg Thr Leu Lys Pro Thr Val Pro |     |     |     |     |  |     |
|   | 850 |     | 855 |     |  | 860 |
| Pro Leu Thr Pro Glu Gln Tyr Glu Leu Tyr Met Tyr Arg Glu Val Asp |     |     |     |     |  |     |
|   | 865 |     | 870 |     |  | 875 |
| Thr Leu Glu Leu Thr Arg Gln Val Lys Glu Lys Leu Ala Lys Asn Gly |     |     |     |     |  |     |
|   | 885 |     | 890 |     |  | 895 |
| Ile Cys Gln Arg Ile Phe Gly Glu Lys Val Leu Gly Leu Ser Gln Gly |     |     |     |     |  |     |
|   | 900 |     | 905 |     |  | 910 |
| Ser Val Ser Asp Met Leu Ser Arg Pro Lys Pro Trp Ser Lys Leu Thr |     |     |     |     |  |     |
|   | 915 |     | 920 |     |  | 925 |
| Gln Lys Gly Arg Glu Pro Phe Ile Arg Met Gln Leu Trp Leu Ser Asp |     |     |     |     |  |     |
|   | 930 |     | 935 |     |  | 940 |
| Gln Leu Gly Gln Ala Val Gly Gln Gln Pro Gly Ala Ser Gln Ala Ser |     |     |     |     |  |     |
|   | 945 |     | 950 |     |  | 955 |
| Pro Thr Glu Pro Arg Ser Ser Pro Ser Pro Pro Pro Ser Pro Thr Glu |     |     |     |     |  |     |
|   | 965 |     | 970 |     |  | 975 |
| Pro Glu Lys Ser Ser Gln Glu Pro Leu Ser Leu Ser Leu Glu Ser Ser |     |     |     |     |  |     |

|      |      |     |      |      |      |      |     |      |      |      |      |      |      |      |      |     |
|------|------|-----|------|------|------|------|-----|------|------|------|------|------|------|------|------|-----|
|      | 980  |     | 985  |      | 990  |      |     |      |      |      |      |      |      |      |      |     |
| Lys  | Glu  | Asn | Gln  | Gln  | Pro  | Glu  | Gly | Arg  | Ser  | Ser  | Ser  | Ser  | Ser  | Leu  | Ser  | Gly |
|      | 995  |     |      |      |      | 1000 |     |      |      |      |      |      |      | 1005 |      |     |
| Lys  | Met  | Tyr | Ser  | Gly  | Ser  | Gln  | Ala | Pro  | Gly  | Gly  | Ile  | Gln  | Glu  | Ile  | Val  |     |
|      | 1010 |     |      |      |      | 1015 |     |      |      |      |      |      |      | 1020 |      |     |
| Ala  | Met  | Ser | Pro  | Glu  | Leu  | Asp  | Thr | Tyr  | Ser  | Ile  | Thr  | Lys  | Arg  | Val  | Lys  |     |
| 1025 |      |     |      |      | 1030 |      |     |      |      | 1035 |      |      |      |      | 1040 |     |
| Glu  | Val  | Leu | Thr  | Asp  | Asn  | Asn  | Leu | Gly  | Gln  | Arg  | Leu  | Phe  | Gly  | Glu  | Ser  |     |
|      |      |     | 1045 |      |      |      |     | 1050 |      |      |      |      | 1055 |      |      |     |
| Ile  | Leu  | Gly | Leu  | Thr  | Gln  | Gly  | Ser | Val  | Ser  | Asp  | Leu  | Leu  | Ser  | Arg  | Pro  |     |
|      | 1060 |     |      |      |      | 1065 |     |      |      |      |      |      | 1070 |      |      |     |
| Lys  | Pro  | Trp | His  | Lys  | Leu  | Ser  | Leu | Lys  | Gly  | Arg  | Glu  | Pro  | Phe  | Val  | Arg  |     |
|      | 1075 |     |      |      |      | 1080 |     |      |      |      |      |      | 1085 |      |      |     |
| Met  | Gln  | Leu | Trp  | Leu  | Asn  | Asp  | Pro | His  | Asn  | Val  | Glu  | Lys  | Leu  | Arg  | Asp  |     |
|      | 1090 |     |      |      | 1095 |      |     |      |      |      | 1100 |      |      |      |      |     |
| Met  | Lys  | Lys | Leu  | Glu  | Lys  | Lys  | Ala | Tyr  | Leu  | Lys  | Arg  | Arg  | Tyr  | Gly  | Leu  |     |
| 1105 |      |     |      |      | 1110 |      |     |      |      |      | 1115 |      |      |      | 1120 |     |
| Ile  | Ser  | Thr | Gly  | Ser  | Asp  | Ser  | Glu | Ser  | Pro  | Ala  | Thr  | Arg  | Ser  | Glu  | Cys  |     |
|      |      |     | 1125 |      |      |      |     |      | 1130 |      |      |      |      | 1135 |      |     |
| Pro  | Ser  | Pro | Cys  | Leu  | Gln  | Pro  | Gln | Asp  | Leu  | Ser  | Leu  | Leu  | Gln  | Ile  | Lys  |     |
|      | 1140 |     |      |      |      | 1145 |     |      |      |      |      |      | 1150 |      |      |     |
| Lys  | Pro  | Arg | Val  | Val  | Leu  | Ala  | Pro | Glu  | Glu  | Lys  | Glu  | Ala  | Leu  | Arg  | Lys  |     |
|      | 1155 |     |      |      |      | 1160 |     |      |      |      |      | 1165 |      |      |      |     |
| Ala  | Tyr  | Gln | Leu  | Glu  | Pro  | Tyr  | Pro | Ser  | Gln  | Gln  | Thr  | Ile  | Glu  | Leu  | Leu  |     |
|      | 1170 |     |      |      | 1175 |      |     |      |      |      | 1180 |      |      |      |      |     |
| Ser  | Phe  | Gln | Leu  | Asn  | Leu  | Lys  | Thr | Asn  | Thr  | Val  | Ile  | Asn  | Trp  | Phe  | His  |     |
| 1185 |      |     |      | 1190 |      |      |     |      |      | 1195 |      |      |      |      | 1200 |     |
| Asn  | Tyr  | Arg | Ser  | Arg  | Met  | Arg  | Arg | Glu  | Met  | Leu  | Val  | Glu  | Gly  | Thr  | Gln  |     |
|      |      |     | 1205 |      |      |      |     | 1210 |      |      |      |      | 1215 |      |      |     |
| Asp  | Glu  | Pro | Asp  | Leu  | Asp  | Pro  | Ser | Gly  | Gly  | Pro  | Gly  | Ile  | Leu  | Pro  | Pro  |     |
|      | 1220 |     |      |      |      | 1225 |     |      |      |      |      | 1230 |      |      |      |     |
| Gly  | His  | Ser | His  | Pro  | Asp  | Pro  | Thr | Pro  | Gln  | Ser  | Pro  | Asp  | Ser  | Glu  | Thr  |     |
|      | 1235 |     |      |      |      | 1240 |     |      |      |      |      | 1245 |      |      |      |     |
| Glu  | Asp  | Gln | Lys  | Pro  | Thr  | Val  | Lys | Glu  | Leu  | Glu  | Leu  | Gln  | Glu  | Gly  | Pro  |     |
|      | 1250 |     |      |      | 1255 |      |     |      |      |      | 1260 |      |      |      |      |     |
| Glu  | Glu  | Asn | Ser  | Thr  | Pro  | Leu  | Thr | Thr  | Gln  | Asp  | Lys  | Ala  | Gln  | Val  | Arg  |     |
| 1265 |      |     |      | 1270 |      |      |     |      | 1275 |      |      |      |      | 1280 |      |     |
| Ile  | Lys  | Gln | Glu  | Gln  | Met  | Glu  | Glu | Asp  | Ala  | Glu  | Glu  | Glu  | Ala  | Gly  | Ser  |     |
|      |      |     | 1285 |      |      |      |     | 1290 |      |      |      |      | 1295 |      |      |     |
| Gln  | Pro  | Gln | Asp  | Ser  | Gly  | Glu  | Leu | Asp  | Lys  | Gly  | Gln  | Gly  | Pro  | Pro  | Lys  |     |
|      | 1300 |     |      |      |      | 1305 |     |      |      |      |      | 1310 |      |      |      |     |
| Glu  | Glu  | His | Pro  | Asp  | Pro  | Pro  | Gly | Asn  | Asp  | Gly  | Leu  | Pro  | Lys  | Val  | Ala  |     |
|      | 1315 |     |      |      |      | 1320 |     |      |      |      |      | 1325 |      |      |      |     |
| Pro  | Gly  | Pro | Leu  | Leu  | Pro  | Gly  | Gly | Ser  | Thr  | Pro  | Asp  | Cys  | Pro  | Ser  | Leu  |     |
|      | 1330 |     |      |      | 1335 |      |     |      |      |      | 1340 |      |      |      |      |     |
| His  | Pro  | Gln | Gln  | Glu  | Ser  | Glu  | Ala | Gly  | Glu  | Arg  | Leu  | His  | Pro  | Asp  | Pro  |     |
| 1345 |      |     | 1350 |      |      |      |     | 1355 |      |      |      |      |      | 1360 |      |     |
| Leu  | Ser  | Phe | Lys  | Ser  | Ala  | Ser  | Glu | Ser  | Ser  | Arg  | Cys  | Ser  | Leu  | Glu  | Val  |     |
|      |      |     | 1365 |      |      |      |     | 1370 |      |      |      |      | 1375 |      |      |     |
| Ser  | Leu  | Asn | Ser  | Pro  | Ser  | Ala  | Ala | Ser  | Ser  | Pro  | Gly  | Leu  | Met  | Met  | Ser  |     |
|      | 1380 |     |      |      |      | 1385 |     |      |      |      |      | 1390 |      |      |      |     |
| Val  | Ser  | Pro | Val  | Pro  | Ser  | Ser  | Ser | Ala  | Pro  | Ile  | Ser  | Pro  | Ser  | Pro  | Pro  |     |
|      | 1395 |     |      |      |      | 1400 |     |      |      |      |      | 1405 |      |      |      |     |
| Gly  | Ala  | Pro | Pro  | Ala  | Lys  | Val  | Pro | Ser  | Ala  | Ser  | Pro  | Thr  | Ala  | Asp  | Met  |     |
|      | 1410 |     |      |      | 1415 |      |     |      |      |      | 1420 |      |      |      |      |     |
| Ala  | Gly  | Ala | Leu  | His  | Pro  | Ser  | Ala | Lys  | Val  | Asn  | Pro  | Asn  | Leu  | Gln  | Arg  |     |
| 1425 |      |     | 1430 |      |      |      |     | 1435 |      |      |      |      |      | 1440 |      |     |
| Arg  | His  | Glu | Lys  | Met  | Ala  | Asn  | Leu | Asn  | Asn  | Ile  | Ile  | Tyr  | Arg  | Leu  | Glu  |     |
|      |      |     | 1445 |      |      |      |     | 1450 |      |      |      |      | 1455 |      |      |     |
| Arg  | Ala  | Ala | Asn  | Arg  | Glu  | Glu  | Ala | Leu  | Glu  | Trp  | Glu  | Phe  |      |      |      |     |
|      | 1460 |     |      |      |      | 1465 |     |      |      |      | 1469 |      |      |      |      |     |

&lt;210&gt; 3409

&lt;211&gt; 519

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (515)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3409

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Leu | Ser | Pro | Gly | Pro | Tyr | Gln | Cys | Arg | Pro | Ser | Leu | Pro | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Leu | Tyr | Pro | Gln | Ser | Leu | Met | Ala | Ala | Ala | Thr | Leu | Arg | Thr | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Gln | Gly | Thr | Val | Thr | Phe | Glu | Asp | Val | Ala | Val | His | Phe | Ser | Trp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Glu | Trp | Gly | Leu | Leu | Asp | Glu | Ala | Gln | Arg | Cys | Leu | Tyr | Arg | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Met | Leu | Glu | Asn | Leu | Ala | Leu | Leu | Thr | Ser | Leu | Asp | Val | His | His |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Lys | Gln | His | Leu | Gly | Glu | Lys | His | Phe | Ile | Ser | Asn | Val | Gly | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Leu | Phe | Val | Lys | Thr | Cys | Thr | Phe | His | Val | Ser | Gly | Glu | Pro | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Cys | Arg | Glu | Val | Gly | Lys | Asp | Phe | Leu | Ala | Lys | Leu | Gly | Phe | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| His | Gln | Gln | Ala | Ala | His | Thr | Gly | Glu | Gln | Ser | Asn | Ser | Lys | Ser | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Gly | Ala | Ile | Ser | His | Arg | Gly | Lys | Thr | His | Tyr | Asn | Trp | Gly | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| His | Thr | Lys | Ala | Phe | Ser | Gly | Lys | His | Thr | Leu | Val | Gln | Gln | Gln | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Leu | Thr | Thr | Glu | Arg | Cys | Tyr | Ile | Cys | Ser | Glu | Cys | Gly | Lys | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Phe | Ser | Lys | Ser | Tyr | Ser | Leu | Asn | Asp | His | Trp | Arg | Leu | His | Thr | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Lys | Pro | Tyr | Glu | Cys | Arg | Glu | Cys | Gly | Lys | Ser | Phe | Arg | Gln | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ser | Leu | Ile | Gln | His | Arg | Arg | Gly | His | Thr | Ala | Val | Arg | Pro | His |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |
| Glu | Cys | Asp | Glu | Cys | Gly | Lys | Leu | Phe | Ser | Asn | Lys | Ser | Asn | Leu | Ile |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | His | Arg | Arg | Val | His | Thr | Gly | Glu | Arg | Pro | Tyr | Glu | Cys | Ser | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Cys | Gly | Lys | Ser | Phe | Asn | Gln | Arg | Ser | Ala | Leu | Leu | Gln | His | Arg | Gly |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | His | Thr | Gly | Glu | Lys | Pro | Tyr | Glu | Cys | Thr | Glu | Cys | Gly | Lys | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Ser | His | Asn | Ser | Ser | Leu | Ile | Lys | His | Gln | Arg | Ile | His | Ser | Gly |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Xaa | Arg | Pro | Tyr | Glu | Cys | Thr | Glu | Cys | Gly | Lys | Ser | Phe | Ser | Gln | Asn |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ser | Ser | Leu | Ile | Glu | His | His | Arg | Val | His | Thr | Gly | Glu | Arg | Pro | Tyr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Lys | Cys | Ser | Glu | Cys | Gly | Lys | Ser | Phe | Arg | Gln | Arg | Ser | Ala | Leu | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gln | His | Arg | Gly | Val | Pro | Thr | Gly | Glu | Arg | Pro | Tyr | Glu | Cys | Ser | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Cys | Gly | Lys | Phe | Phe | Pro | Tyr | Ser | Ser | Ser | Leu | Gly | Lys | His | Gln | Arg |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Val | His | Thr | Gly | Ser | Arg | Pro | Tyr | Glu | Cys | Ser | Glu | Cys | Gly | Lys | Ser |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Phe | Thr | Gln | Asn | Ser | Gly | Leu | Ile | Lys | His | Arg | Arg | Val | His | Thr | Gly |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Glu | Lys | Pro | Tyr | Glu | Cys | Thr | Glu | Xaa | Lys | Lys | Ser | Phe | Ser | His | Asn |  |  |
|     |     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |  |  |
| Ser | Ser | Leu | Ile | Lys | His | Gln | Arg | Ile | His | Ser | Arg | Xaa | Lys | Pro | Tyr |  |  |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Glu | Cys | Lys | Cys | Gly | Asn | Arg | Xaa | His | Pro | Gly | Glu | Ser | Pro | Xaa | Val |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| His | Ser | Glu | Cys | Gln | Lys | Ser | Phe | Ser | Xaa | Arg | Pro | Tyr | Leu | Ile | Glu |  |  |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |  |  |
| Cys | His | Thr | Val | His | Lys | Gly | Lys | Thr | Leu | Leu | Ile | Cys | Arg | Asp | Val |  |  |
|     |     | 500 |     |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Gln | Leu | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 515 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3410

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(207)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3410

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Leu | Cys | Met | Lys | Gly | Ile | Ser | Gly | Gly | Val | Arg | Val | Ala | Ala | Leu | Ala |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
| Ala | Arg | Ala | Glu | Arg | Glu | Glu | Leu | Pro | Val | Pro | Ala | Met | Glu | Pro | Gln |  |  |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Pro | Thr | Ala | Trp | Gly | Ser | Pro | His | Pro | Glu | Ala | Val | Leu | Gln | Leu | Glu |  |  |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Val | Ala | Pro | Glu | Ser | Ser | Gly | Pro | Cys | Thr | Asp | Thr | Ala | Lys | Asp | Gln |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |  |  |
| Gln | Ser | Asp | Lys | Leu | Pro | Asp | Leu | Met | Pro | Pro | Ala | Glu | Pro | Leu | Gly |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Ser | Ala | Leu | Glu | Leu | Arg | Ala | Ser | Leu | Glu | Ile | Asp | Val | Ala | Glu | Arg |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Gly | Cys | Glu | His | Gly | Pro | Ser | Gln | Gln | Leu | Pro | Arg | Cys | Pro | Xaa | Ser |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Trp | Ala | Trp | Ser | Glu | Pro | Trp | Cys | Gln | Arg | Pro | Gly | Cys | Ala | Val | Xaa |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |
| Ala | Pro | Leu | Pro | Tyr | Xaa | Arg | Glu | Ala | Ser | Phe | Ile | Tyr | Gln | Ser | His |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ser | Pro | Ala | Ala | Ser | Gly | Pro | Phe | His | Ser | Ala | Gly | Ala | Gly | Ala | Val |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Tyr | Leu | Gln | Ala | Gly | Val | Gly | Glu | Gln | Glu | Lys | Glu | Ala | Val | Arg |     |  |  |
|     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |     |  |  |
| Lys | Gly | Ser | Gly | Ser | Ser | Ser | Cys | Ser | Gln | Arg | Gly | Pro | Pro | Pro | Pro |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |  |  |
| Gly | Met | Glu | Val | Cys | Pro | Leu | Leu | Gly | Phe | Trp | Ala | Ile | Cys | Pro |     |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     | 207 |     |     |  |  |

&lt;210&gt; 3411

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(148)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3411

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Leu | Ser | Lys | Pro | Ala | Gly | Ile | Ser | Thr | Met | Pro | Trp | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Leu | Leu | Phe | Leu | Leu | Thr | His | Ser | Ala | Val | Ser | Val | Val | Gln | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |
| Gly | Leu | Thr | Gln | Pro | Pro | Ser | Val | Ser | Lys | Asp | Leu | Arg | Gln | Thr | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Leu | Thr | Cys | Thr | Gly | Asn | Ser | Asn | Asn | Val | Gly | His | Gln | Gly | Val |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Trp | Leu | Gln | Gln | His | Gln | Gly | His | Pro | Pro | Lys | Leu | Leu | Ser | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Asn | Asn | Asn | Arg | Pro | Ser | Gly | Ile | Ser | Glu | Arg | Leu | Ser | Ala | Tyr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Ser | Gly | Asn | Ala | Ala | Ser | Leu | Thr | Ile | Tyr | Gly | Leu | Gln | Thr | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Glu | Ala | Asp | Xaa | Xaa | Cys | Arg | Pro | Arg | Arg | Lys | Leu | Ile | Pro | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Ala | Arg | Leu | Phe | Phe | Phe | Phe | Leu | Ile | Asp | Asn | Glu | Glu | Tyr | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Arg | Val | Tyr |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     | 148 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3412

&lt;211&gt; 695

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(694)

&lt;223&gt; Xaa = any amino acid or nothing

&lt;400&gt; 3412

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Arg | Gly | Ile | Pro | Gly | Ser | Ala | Ser | Leu | Ser | Leu | Thr | Met | Cys | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ser | Cys | Phe | Gln | Ser | Pro | Arg | Leu | Gln | Trp | Val | Trp | Arg | Thr | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Leu | Lys | His | Thr | Gln | Arg | Arg | His | Gln | Gly | Ser | His | Arg | Trp | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Leu | Gly | Gly | Ser | Thr | Tyr | Arg | Ala | Val | Ile | Phe | Asp | Met | Gly | Gly |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Leu | Ile | Pro | Ser | Pro | Gly | Arg | Val | Ala | Ala | Glu | Trp | Glu | Val | Gln |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Asn | Arg | Ile | Pro | Ser | Gly | Thr | Ile | Leu | Lys | Ala | Leu | Met | Glu | Gly | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Asn | Gly | Pro | Trp | Met | Arg | Phe | Met | Arg | Ala | Glu | Ile | Thr | Ala | Glu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gly | Phe | Leu | Arg | Glu | Phe | Gly | Arg | Leu | Cys | Ser | Glu | Met | Leu | Lys | Thr |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser | Val | Pro | Val | Asp | Ser | Phe | Phe | Ser | Leu | Leu | Thr | Ser | Glu | Arg | Val |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Lys | Gln | Phe | Pro | Val | Met | Thr | Glu | Ala | Ile | Thr | Gln | Ile | Arg | Ala |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Lys | Gly | Leu | Gln | Thr | Ala | Val | Leu | Ser | Asn | Asn | Phe | Tyr | Leu | Pro | Asn |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Lys | Ser | Phe | Leu | Pro | Leu | Asp | Arg | Lys | Gln | Phe | Asp | Val | Ile | Val |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Glu | Ser | Cys | Met | Glu | Gly | Ile | Cys | Lys | Pro | Asp | Pro | Arg | Ile | Tyr | Lys |
|     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Leu | Cys | Leu | Glu | Gln | Leu | Gly | Leu | Gln | Pro | Ser | Glu | Ser | Ile | Phe | Leu |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Asp Asp Leu Gly Thr Asn Leu Lys Glu Ala Ala Arg Leu Gly Ile His |     |     |
| 225   | 230 | 235 |
| Thr Ile Lys Val Asn Asp Pro Glu Thr Ala Val Lys Glu Leu Glu Ala |     | 240 |
|   | 245 | 250 |
| Leu Leu Gly Phe Thr Leu Arg Val Gly Val Pro Asn Thr Arg Pro Val |     | 255 |
|   | 260 | 265 |
| Lys Lys Thr Met Glu Ile Pro Lys Asp Ser Leu Gln Lys Tyr Leu Lys |     | 270 |
|   | 275 | 280 |
| Asp Leu Leu Gly Ile Gln Thr Thr Gly Pro Leu Glu Leu Leu Gln Phe |     | 285 |
|   | 290 | 295 |
| Asp His Gly Gln Ser Asn Pro Thr Tyr Tyr Ile Arg Leu Ala Asn Arg |     | 300 |
|   | 305 | 310 |
| Asp Leu Val Leu Arg Lys Lys Pro Pro Gly Thr Leu Leu Pro Ser Ala |     | 315 |
|   | 325 | 330 |
| His Ala Ile Glu Arg Glu Phe Arg Ile Met Lys Ala Leu Ala Asn Ala |     | 335 |
|   | 340 | 345 |
| Gly Val Pro Val Pro Asn Val Leu Asp Leu Cys Glu Asp Ser Ser Val |     | 350 |
|   | 355 | 360 |
| Ile Gly Thr Pro Phe Tyr Val Met Glu Tyr Cys Pro Gly Leu Ile Tyr |     | 365 |
|   | 370 | 375 |
| Lys Asp Pro Ser Leu Pro Gly Leu Glu Pro Ser His Arg Arg Ala Ile |     | 380 |
|   | 385 | 390 |
| Tyr Thr Ala Met Asn Thr Val Leu Cys Lys Ile His Ser Val Asp Leu |     | 395 |
|   | 405 | 410 |
| Gln Ala Val Gly Leu Glu Asp Tyr Gly Lys Gln Gly Ser Thr Thr Trp |     | 415 |
|   | 420 | 425 |
| Val Tyr Ser Ser Arg Arg Ala Arg Gly Ala Leu Leu Phe Leu Asp Trp |     | 430 |
|   | 435 | 440 |
| Glu Leu Ser Tyr Pro Trp Gly Asp Pro Phe Ala Asp Val Gly Tyr Ser |     | 445 |
|   | 450 | 455 |
| Cys Leu Ala His Tyr Leu Pro Ser Ser Phe Pro Val Leu Arg Gly Ile |     | 460 |
|   | 465 | 470 |
| Asn Asp Cys Asp Leu Thr Gln Leu Gly Ile Pro Ala Ala Glu Glu Tyr |     | 475 |
|   | 485 | 490 |
| Phe Arg Met Tyr Cys Leu Gln Met Gly Leu Pro Pro Thr Glu Asn Trp |     | 495 |
|   | 500 | 505 |
| Asn Phe Tyr Met Ala Phe Ser Phe Phe Arg Val Ala Ala Ile Leu Gln |     | 510 |
|   | 515 | 520 |
| Gly Val Tyr Lys Arg Ser Leu Thr Gly Gln Ala Ser Ser Thr Tyr Ala |     | 525 |
|   | 530 | 535 |
| Glu Gln Thr Gly Lys Leu Thr Glu Phe Val Ser Asn Leu Ala Trp Asp |     | 540 |
|   | 545 | 550 |
| Phe Ala Val Lys Glu Gly Phe Arg Val Phe Lys Glu Met Pro Phe Thr |     | 555 |
|   | 565 | 570 |
| Asn Pro Leu Thr Arg Ser Tyr His Thr Trp Ala Arg Pro Gln Ser Gln |     | 575 |
|   | 580 | 585 |
| Trp Cys Pro Thr Gly Ser Arg Ser Tyr Ser Ser Val Pro Glu Ala Ser |     | 590 |
|   | 595 | 600 |
| Pro Ala His Thr Ser Arg Gly Gly Leu Val Ile Ser Pro Glu Ser Leu |     | 605 |
|   | 610 | 615 |
| Ser Pro Pro Val Arg Glu Leu Tyr His Arg Leu Lys His Phe Met Glu |     | 620 |
|   | 625 | 630 |
| Gln Arg Val Tyr Pro Ala Glu Pro Glu Leu Gln Ser His Gln Ala Ser |     | 635 |
|   | 645 | 650 |
| Ala Ala Arg Trp Ser Pro Ser Pro Leu Ile Glu Asp Leu Lys Val Lys |     | 655 |
|   | 660 | 665 |
| Gln Pro Trp Xaa Gly Gly Arg Ser Gly Arg Thr Ser Trp Arg Leu Leu |     | 670 |
|   | 675 | 680 |
| Ala Leu Gly Cys His Thr   |     | 685 |
|   | 690 | 694 |

<210> 3413  
 <211> 492  
 <212> PRT  
 <213> Homo sapiens

<221> misc\_feature  
 <222> (1)...(490)  
 <223> Xaa = any amino acid or nothing

<400> 3413

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Glu | Ser | Arg | His | Gln | Cys | Phe | Ser | Asp | Arg | Ser | Ser | His | Phe | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Met | Glu | Met | Glu | Gln | Glu | Lys | Met | Thr | Met | Asn | Lys | Glu | Leu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Asp | Ala | Ala | Ala | Tyr | Cys | Cys | Ser | Ala | Cys | His | Gly | Asp | Glu | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Ser | Tyr | Asn | His | Pro | Ile | Arg | Gly | Arg | Ala | Lys | Ser | Arg | Ser | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Ala | Ser | Pro | Ala | Leu | Gly | Ser | Thr | Lys | Glu | Phe | Arg | Arg | Thr | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Leu | His | Gly | Pro | Cys | Pro | Val | Thr | Thr | Phe | Gly | Pro | Lys | Ala | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Leu | Gln | Asn | Pro | Gln | Thr | Ile | Met | His | Ile | Gln | Asp | Pro | Ala | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Arg | Leu | Thr | Trp | Asn | Lys | Ser | Pro | Lys | Ser | Val | Leu | Val | Ile | Lys |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Lys | Met | Arg | Asp | Ala | Ser | Leu | Leu | Gln | Pro | Phe | Lys | Glu | Leu | Cys | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| His | Leu | Met | Glu | Glu | Asn | Met | Ile | Val | Tyr | Val | Glu | Lys | Lys | Val | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Asp | Pro | Ala | Ile | Ala | Ser | Asp | Glu | Ser | Phe | Gly | Ala | Val | Lys | Lys |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Phe | Cys | Thr | Phe | Arg | Glu | Asp | Tyr | Asp | Asp | Ile | Ser | Asn | Gln | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Phe | Ile | Ile | Cys | Leu | Gly | Gly | Asp | Gly | Thr | Leu | Leu | Tyr | Ala | Ser |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ser | Leu | Phe | Gln | Gly | Ser | Val | Pro | Pro | Val | Met | Ala | Phe | His | Leu | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Leu | Gly | Phe | Leu | Thr | Pro | Phe | Ser | Phe | Glu | Asn | Phe | Gln | Ser | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Thr | Gln | Val | Ile | Glu | Gly | Asn | Ala | Ala | Val | Val | Leu | Arg | Gly | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Leu | Lys | Val | Arg | Val | Val | Lys | Glu | Leu | Arg | Gly | Lys | Lys | Thr | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | His | Asn | Gly | Leu | Gly | Glu | Lys | Gly | Ser | Gln | Ala | Ala | Gly | Leu | Asp |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Met | Asp | Val | Gly | Lys | Gln | Ala | Met | Gln | Tyr | Gln | Val | Leu | Asn | Glu | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Ile | Asp | Arg | Gly | Pro | Ser | Ser | Tyr | Leu | Ser | Asn | Val | Asp | Val | Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Asp | Gly | His | Leu | Ile | Thr | Thr | Val | Gln | Gly | Asp | Gly | Xaa | Gly | Pro |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gln | His | Leu | Ser | Trp | Gly | Pro | Xaa | Ala | Phe | Leu | Gly | Arg | Glu | Xaa | Arg |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Leu | Arg | Leu | Ser | Leu | Ser | Gly | Val | Ile | Val | Ser | Thr | Pro | Thr | Gly | Ser |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Thr | Ala | Tyr | Ala | Ala | Ala | Ala | Gly | Ala | Ser | Met | Ile | His | Pro | Asn | Val |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Ala | Ile | Met | Ile | Thr | Pro | Ile | Cys | Pro | His | Ser | Leu | Ser | Phe | Arg |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Pro | Ile | Val | Val | Pro | Ala | Gly | Val | Glu | Leu | Lys | Ile | Met | Leu | Ser | Pro |
|     |     |     |     | 405 |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Glu | Ala | Arg | Asn | Thr | Ala | Trp | Val | Ser | Phe | Asp | Gly | Arg | Lys | Arg | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Glu | Ile | Arg | His | Gly | Asp | Ser | Ile | Ser | Ile | Thr | Thr | Ser | Cys | Tyr | Pro |  |  |
|     |     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |  |  |
| Leu | Pro | Ser | Ile | Cys | Val | Arg | Asp | Pro | Val | Ser | Asp | Trp | Phe | Glu | Ser |  |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Leu | Ala | Gln | Cys | Leu | His | Trp | Asn | Val | Arg | Lys | Lys | Gln | Ala | His | Phe |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Gly |     |     |     |     |     |  |  |
|     |     |     | 485 |     |     |     |     |     |     | 490 |     |     |     |     |     |  |  |

&lt;210&gt; 3414

&lt;211&gt; 863

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(860)

&lt;223&gt; Xaa = any amino acid or nothing

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Val | Ile | Val | Asn | Lys | Asn | Val | Asn | Trp | Ile | Asn | Tyr | Ile | Tyr | Tyr | Asn |  |  |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Gln | Gln | Gln | Arg | Ala | Phe | His | Glu | Leu | Lys | Glu | Lys | Leu | Met | Ser | Ala |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Leu | Ala | Leu | Gly | Leu | Pro | Asp | Leu | Thr | Lys | Pro | Phe | Thr | Phe | Tyr | Glu |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |  |
| Ser | Glu | Arg | Glu | Lys | Met | Ala | Val | Gly | Val | Leu | Thr | Gln | Thr | Val | Gly |  |  |
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Pro | Trp | Pro | Arg | Pro | Val | Ala | Tyr | Leu | Ser | Lys | Gln | Leu | Asp | Gly | Val |  |  |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ser | Lys | Gly | Trp | Pro | Pro | Cys | Leu | Arg | Ala | Leu | Ala | Ala | Thr | Ala | Leu |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Leu | Ala | Gln | Glu | Ala | Asp | Lys | Leu | Thr | Leu | Gly | Gln | Asn | Leu | Asn | Ile |  |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Lys | Ala | Pro | His | Ala | Val | Val | Thr | Leu | Met | Asn | Thr | Lys | Gly | His | His |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Trp | Leu | Thr | Asn | Ala | Arg | Leu | Thr | Lys | Tyr | Gln | Ser | Leu | Pro | Cys | Glu |  |  |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Asn | Pro | His | Ile | Thr | Ile | Glu | Val | Cys | Asn | Thr | Leu | Asn | Pro | Thr | Thr |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Leu | Leu | Pro | Val | Ser | Glu | Ser | Pro | Gly | Glu | His | Asn | Cys | Val | Glu | Val |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Leu | Asp | Ser | Val | Tyr | Ser | Ser | Arg | Pro | Asp | Leu | Arg | Asp | Gln | Pro | Trp |  |  |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ala | Ser | Ser | Val | Asp | Trp | Glu | Leu | Tyr | Met | Asp | Gly | Ser | Ser | Phe | Ile |  |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Asn | Ser | Gln | Gly | Glu | Arg | Cys | Ala | Gly | Tyr | Ala | Val | Val | Thr | Leu | Asp |  |  |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ala | Val | Ile | Lys | Ala | Lys | Leu | Trp | Leu | Gln | Gly | Thr | Ser | Ala | Gln | Lys |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Ala | Glu | Leu | Ile | Ala | Leu | Thr | Arg | Ala | Val | Glu | Leu | Ser | Glu | Gly | Gln |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |  |  |
| Glu | Ser | Leu | Glu | Glu | Leu | Leu | Gly | Arg | Tyr | Phe | Tyr | Val | Ser | His | Leu |  |  |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Pro | Ala | Phe | Ala | Lys | Ala | Val | Ala | Gln | Leu | Cys | Ile | Thr | Cys | Arg | Gln |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| His | Asn | Ala | Arg | Gln | Ser | Pro | Thr | Val | Ser | Pro | His | Ile | Gln | Ala | Tyr |  |  |
| 290 |     |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Gly | Ala | Ala | Pro | Phe | Glu | Asp | Leu | Gln | Val | Asp | Phe | Thr | Glu | Met | Pro |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Lys | Cys | Gly | Gly | Asn | Lys | Tyr | Leu | Leu | Val | Leu | Thr | Cys | Thr | Tyr | Ser |  |  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Gly | Trp | Val | Glu | Ala | Tyr | Pro | Thr | Arg | Thr | Glu | Lys | Ala | Tyr | Glu | Val |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Thr | Arg | Val | Leu | Leu | Arg | Asp | Leu | Ile | Pro | Arg | Phe | Gly | Leu | Pro | Leu |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Arg | Ile | Gly | Ser | His | Asn | Gly | Pro | Val | Phe | Val | Ala | Asp | Leu | Asp | Cys |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Val | Glu | Ile | Asn | Val | Asp | Thr | Gly | Val | Ile | Trp | Ala | Thr | Trp | Ile | Lys |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |
| Asn | Glu | Lys | Asp | Pro | Val | Gln | Leu | Gln | Lys | Gly | Lys | Ser | Gly | Pro | Ser |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Cys | Thr | Lys | Gly | Gln | Cys | Asn | Pro | Leu | Glu | Leu | Val | Ile | Thr | Asn | Pro |  |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
| Leu | Asp | Pro | Arg | Trp | Lys | Lys | Gly | Glu | Arg | Val | Thr | Leu | Gly | Ile | Asn |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |
| Gly | Ala | Gly | Leu | Asn | Pro | Arg | Val | Asn | Ile | Leu | Val | Arg | Gly | Glu | Val |  |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |
| Tyr | Lys | Cys | Ser | Leu | Glu | Pro | Val | Phe | Gln | Thr | Phe | Tyr | Asp | Glu | Leu |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |
| Asn | Val | Pro | Ile | Thr | Glu | Phe | Pro | Gly | Lys | Thr | Arg | Asn | Leu | Phe | Leu |  |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |  |
| Gln | Leu | Ala | Glu | His | Val | Ala | Gln | Ser | Leu | Thr | Val | Thr | Ser | Cys | Tyr |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |
| Val | Cys | Gly | Gly | Thr | Val | Ile | Ala | Asp | Gln | Trp | Pro | Trp | Glu | Ala | Arg |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |
| Glu | Leu | Val | Pro | Thr | Asp | Pro | Val | Pro | Asp | Glu | Phe | Pro | Ala | Gln | Lys |  |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |  |
| Asn | His | Pro | Asp | Asn | Phe | Trp | Val | Leu | Lys | Ala | Ser | Ile | Ile | Arg | Gln |  |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |  |
| Tyr | Tyr | Ile | Ala | Arg | Val | Glu | Lys | Asp | Phe | Thr | Leu | Pro | Val | Gly | Arg |  |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |  |
| Leu | His | Gly | Gly | Arg | Ser | Asn | His | Thr | Glu | Lys | Asn | Pro | Phe | Ser | Lys |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |
| Phe | Pro | Lys | Leu | Gln | Thr | Val | Xaa | Ala | His | Pro | Glu | Ser | His | Arg | Asp |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |
| Trp | Thr | Ala | Pro | Thr | Gly | Leu | Tyr | Trp | Ile | Cys | Gly | His | Arg | Ala | Tyr |  |
|     | 610 |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |     |  |
| Thr | Lys | Leu | Pro | Ala | Ser | Ser | Cys | Val | Ile | Gly | Thr | Ile | Lys | Pro | Ser |  |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |  |
| Phe | Phe | Leu | Leu | Ser | Ile | Lys | Thr | Gly | Glu | Leu | Leu | Gly | Phe | Pro | Val |  |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |  |
| Tyr | Ala | Ser | Arg | Lys | Ser | Ile | Ala | Ile | Arg | Asn | Xaa | Asn | Asn | Asp | Lys |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |
| Trp | Pro | Pro | Glu | Arg | Ile | Ile | Gln | Tyr | Tyr | Gly | Pro | Ala | Thr | Xaa | Ala |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |
| Gln | Asp | Gly | Ser | Trp | Gly | Tyr | Arg | Ile | Pro | Ile | Tyr | Met | Ile | Asn | Arg |  |
|     | 690 |     |     |     | 695 |     |     |     |     |     | 700 |     |     |     |     |  |
| Ile | Ile | Arg | Leu | Gln | Ala | Val | Leu | Lys | Ile | Ile | Thr | Ala | Thr | Gly | Arg |  |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |  |
| Ala | Leu | Thr | Ile | Leu | Ala | Gln | Gln | Glu | Thr | Gln | Met | Arg | Asn | Ala | Ile |  |
|     |     |     | 725 |     |     |     |     |     | 730 |     |     |     |     | 735 |     |  |
| Tyr | Gln | Asn | Arg | Leu | Ala | Leu | Asp | Tyr | Leu | Leu | Ala | Ala | Glu | Gly | Glu |  |
|     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |     |  |
| Val | Cys | Arg | Lys | Phe | Asn | Leu | Thr | Asn | Cys | Cys | Leu | His | Ile | Asp | Asn |  |
|     | 755 |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |  |
| Gln | Gly | Gln | Val | Val | Glu | Asp | Ile | Val | Arg | Asp | Met | Thr | Lys | Val | Ala |  |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |
| His | Val | Pro | Val | Gln | Val | Trp | His | Gly | Phe | Asp | Pro | Gly | Ala | Met | Phe |  |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |  |
| Arg | Lys | Trp | Phe | Pro | Ala | Leu | Gly | Gly | Phe | Lys | Thr | Leu | Ile | Ile | Arg |  |
|     |     |     | 805 |     |     |     |     |     | 810 |     |     |     |     | 815 |     |  |
| Val | Ile | Ile | Val | Ile | Gly | Thr | Tyr | Leu | Leu | Leu | Pro | Arg | Leu | Leu | Pro |  |
|     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |  |
| Val | Leu | Leu | Gln | Met | Ile | Lys | Ser | Phe | Ile | Ala | Thr | Leu | Val | Tyr | Gln |  |



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<210> 3415
<211> 120
<212> PRT
<213> Homo sapiens

<221> misc_feature
<222> (1)...(117)
<223> Xaa = any amino acid or nothing
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<210> 3416
<211> 294
<212> PRT
<213> Homo sapiens
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5101

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Lys | Leu | Gly | Gly | Pro | Thr | Pro | Ser | Thr | Glu | Leu | Pro | Gly | Leu | Gln | Pro |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| His | Ala | Pro | Thr | Pro | His | Thr | Ala | Pro | Ala | Thr | Pro | Thr | Tyr | Ser | Pro |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ala | Pro | Asp | Thr | Pro | Asn | Pro | Pro | Val | Arg | Trp | Lys | Cys | Pro | Leu | Pro |  |  |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |  |  |
| Val | Glu | Pro | Arg | Thr | Arg | Gln | Leu | Cys | Arg | Glu | Arg | Thr | Arg | Lys | Ala |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Cys | Pro | Pro | Lys | Pro | Arg | Pro | Pro | Leu | Gly | Leu | Pro | Gly | Asp | Pro | Thr |  |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |  |
| Gly | Pro | Val | Thr | His | His | Ala | Pro | Pro | Val | Ser | Pro | Thr | Gly | Ala | Ser |  |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Gly | Gln | Glu | Arg | Arg | Ala | Glu | Pro | Gly | Ala | Val | Ser | Tyr | Ala | His | Ala |  |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ser | Ala | Thr | Lys |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 290 |     | 292 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 3417  
 <211> 202  
 <212> PRT  
 <213> Homo sapiens

<400> 3417

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Cys | Leu | Lys | Tyr | Met | Tyr | Thr | Tyr | Ile | Phe | Cys | Pro | Asn | Cys | Val | Ser |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Tyr | Lys | Met | Lys | Thr | Asp | His | Phe | Ser | Leu | Arg | Tyr | Leu | His | Ser | Ser |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Cys | Ala | Glu | Asp | Asn | Lys | Ser | Ser | Val | Asp | Ser | Ser | Gly | Gln | Ala | Ala |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| His | Pro | Ser | Lys | Gly | Lys | Phe | Phe | Pro | His | Gly | Thr | His | Trp | Gly | Thr |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Gln | Cys | Arg | Gly | His | Ile | Ser | Val | Leu | Gly | Trp | Gln | Cys | Ser | Cys | Pro |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     |     | 80  |  |  |
| Ser | Thr | Gly | Cys | Arg | Val | Gly | Leu | Gly | Leu | Ala | Met | Cys | Gln | Thr | His |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Ala | Tyr | Ile | His | Thr | His | Thr | His | Thr | His | Thr | His | Thr | Pro | Thr | Asp |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |  |  |
| Tyr | Gly | Ala | His | His | Thr | Asp | Pro | Leu | Gln | Arg | Trp | Gly | Leu | Gly | Pro |  |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Arg | Lys | Ser | Glu | Ala | Gly | Pro | Leu | Pro | Gln | Leu | Ser | Arg | Asp | Gln | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| His | Pro | Gly | Pro | Leu | Ser | Pro | Gly | Ala | Ser | Pro | Arg | Ser | Ala | Gly | Leu |  |  |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |     |  |  |
| Pro | Gly | Trp | His | Pro | Ala | His | Gln | Glu | Pro | Arg | Ala | Arg | Gly | Arg | Cys |  |  |
|     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |     |  |  |
| Ala | Arg | Asp | Gly | Leu | Ser | Leu | Gln | Thr | Arg | Leu | Thr | Asn | Lys | Tyr | Asp |  |  |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Ile | Gln | Cys | Cys | Gln | Glu | Met | Arg | Lys |     |     |     |     |     |     |     |  |  |
|     | 195 |     |     |     |     |     | 200 | 201 |     |     |     |     |     |     |     |  |  |

<210> 3418  
 <211> 1024  
 <212> PRT  
 <213> Homo sapiens

<400> 3418  
 Leu Asp Glu Tyr Glu Ala Arg Leu Thr Leu Ala Asn Leu Asp Asp Phe

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| 1               | 5               | 10              | 15              |
| Glu Glu Asp Asn | Glu Asp Asp Asp | Glu Asn Arg Val | Asn Gln Glu Glu |
| 20              | 25              | 30              |                 |
| Lys Ala Ala Lys | Ile Thr Glu Leu | Ile Asn Lys Leu | Asn Phe Leu Asp |
| 35              | 40              | 45              |                 |
| Glu Ala Glu Lys | Asp Leu Ala Thr | Val Asn Ser Asn | Pro Phe Asp Asp |
| 50              | 55              | 60              |                 |
| Pro Asp Ala Ala | Glu Leu Asn Pro | Phe Gly Asp Pro | Asp Ser Glu Glu |
| 65              | 70              | 75              | 80              |
| Pro Ile Thr Glu | Thr Ala Ser Pro | Arg Lys Thr Glu | Asp Ser Phe Tyr |
| 85              | 90              | 95              |                 |
| Asn Asn Ser Tyr | Asn Pro Phe Lys | Glu Val Gln Thr | Pro Gln Tyr Leu |
| 100             | 105             | 110             |                 |
| Asn Pro Phe Asp | Glu Pro Glu Ala | Phe Val Thr Ile | Lys Asp Ser Pro |
| 115             | 120             | 125             |                 |
| Pro Gln Ser Thr | Lys Arg Lys Asn | Ile Arg Pro Val | Asp Met Ser Lys |
| 130             | 135             | 140             |                 |
| Tyr Leu Tyr Ala | Asp Ser Ser Lys | Thr Glu Glu Glu | Glu Leu Asp Glu |
| 145             | 150             | 155             | 160             |
| Ser Asn Pro Phe | Tyr Glu Pro Lys | Ser Thr Pro Pro | Pro Asn Asn Leu |
| 165             | 170             | 175             |                 |
| Val Asn Pro Val | Gln Glu Leu Glu | Thr Glu Arg Arg | Val Lys Arg Lys |
| 180             | 185             | 190             |                 |
| Ala Pro Ala Pro | Pro Val Leu Ser | Pro Lys Thr Gly | Val Leu Asn Glu |
| 195             | 200             | 205             |                 |
| Asn Thr Val Ser | Ala Gly Lys Asp | Leu Ser Thr Ser | Pro Lys Pro Ser |
| 210             | 215             | 220             |                 |
| Pro Ile Pro Ser | Pro Val Leu Gly | Arg Lys Pro Asn | Ala Ser Gln Ser |
| 225             | 230             | 235             | 240             |
| Leu Leu Val Trp | Cys Lys Glu Val | Thr Lys Asn Tyr | Arg Gly Val Lys |
| 245             | 250             | 255             |                 |
| Ile Thr Asn Phe | Thr Thr Ser Trp | Arg Asn Gly Leu | Ser Phe Cys Ala |
| 260             | 265             | 270             |                 |
| Ile Leu His His | Phe Arg Pro Asp | Leu Ile Asp Tyr | Lys Ser Leu Asn |
| 275             | 280             | 285             |                 |
| Pro Gln Asp Ile | Lys Glu Asn Asn | Lys Lys Ala Tyr | Asp Gly Phe Ala |
| 290             | 295             | 300             |                 |
| Ser Ile Gly Ile | Ser Arg Leu Leu | Glu Pro Ser Asp | Met Val Leu Leu |
| 305             | 310             | 315             | 320             |
| Ala Ile Pro Asp | Lys Leu Thr Val | Met Thr Tyr Leu | Tyr Gln Ile Arg |
| 325             | 330             | 335             |                 |
| Ala His Phe Ser | Gly Gln Glu Leu | Asn Val Val Gln | Ile Glu Glu Asn |
| 340             | 345             | 350             |                 |
| Ser Ser Lys Ser | Thr Tyr Lys Val | Gly Asn Tyr Glu | Thr Asp Thr Asn |
| 355             | 360             | 365             |                 |
| Ser Ser Val Asp | Gln Glu Lys Phe | Tyr Ala Glu Leu | Ser Asp Leu Lys |
| 370             | 375             | 380             |                 |
| Arg Glu Pro Glu | Leu Gln Gln Pro | Ile Ser Gly Ala | Val Asp Phe Leu |
| 385             | 390             | 395             | 400             |
| Ser Gln Asp Asp | Ser Val Phe Val | Asn Asp Ser Gly | Val Gly Glu Ser |
| 405             | 410             | 415             |                 |
| Glu Ser Glu His | Gln Thr Pro Asp | Asp His Leu Ser | Pro Ser Thr Ala |
| 420             | 425             | 430             |                 |
| Ser Pro Tyr Cys | Arg Arg Thr Lys | Ser Asp Thr Glu | Pro Gln Lys Ser |
| 435             | 440             | 445             |                 |
| Gln Gln Ser Ser | Gly Arg Thr Ser | Gly Ser Asp Asp | Pro Gly Ile Cys |
| 450             | 455             | 460             |                 |
| Ser Asn Thr Asp | Ser Thr Gln Ala | Gln Val Leu Leu | Gly Lys Lys Arg |
| 465             | 470             | 475             | 480             |
| Leu Leu Lys Ala | Glu Thr Leu Glu | Leu Ser Asp Leu | Tyr Val Ser Asp |
| 485             | 490             | 495             |                 |
| Lys Lys Lys Asp | Met Ser Pro Pro | Phe Ile Cys Glu | Glu Thr Asp Glu |
| 500             | 505             | 510             |                 |
| Gln Lys Leu Gln | Thr Leu Asp Ile | Gly Ser Asn Leu | Glu Lys Glu Lys |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 515                     | 520                 | 525                 |
| Leu Glu Asn Ser Arg Ser | Leu Glu Cys Arg Ser | Asp Pro Glu Ser Pro |
| 530                     | 535                 | 540                 |
| Ile Lys Lys Thr Ser Leu | Ser Pro Thr Ser Lys | Leu Gly Tyr Ser Tyr |
| 545                     | 550                 | 555                 |
| Ser Arg Asp Leu Asp Leu | Ala Lys Lys Lys His | Ala Ser Leu Arg Gln |
| 565                     | 570                 | 575                 |
| Thr Glu Ser Asp Pro Asp | Ala Asp Arg Thr Thr | Leu Asn His Ala Asp |
| 580                     | 585                 | 590                 |
| His Ser Ser Lys Ile Val | Gln His Arg Leu Leu | Ser Arg Gln Glu Glu |
| 595                     | 600                 | 605                 |
| Leu Lys Glu Arg Ala Arg | Val Leu Leu Glu Gln | Ala Arg Arg Asp Ala |
| 610                     | 615                 | 620                 |
| Ala Leu Lys Ala Gly Asn | Lys His Asn Thr Asn | Thr Ala Thr Pro Phe |
| 625                     | 630                 | 635                 |
| Cys Asn Arg Gln Leu Ser | Asp Gln Gln Asp Glu | Glu Arg Arg Arg Gln |
| 645                     | 650                 | 655                 |
| Leu Arg Glu Arg Ala Arg | Gln Leu Ile Ala Glu | Ala Arg Ser Gly Val |
| 660                     | 665                 | 670                 |
| Lys Met Ser Glu Leu Pro | Ser Tyr Gly Glu Met | Ala Ala Glu Lys Leu |
| 675                     | 680                 | 685                 |
| Lys Glu Arg Ser Lys Ala | Ser Gly Asp Glu Asn | Asp Asn Ile Glu Ile |
| 690                     | 695                 | 700                 |
| Asp Thr Asn Glu Glu Ile | Pro Glu Gly Phe Val | Val Gly Gly Gly Asp |
| 705                     | 710                 | 715                 |
| Glu Leu Thr Asn Leu Glu | Asn Asp Leu Asp Thr | Pro Glu Gln Asn Ser |
| 725                     | 730                 | 735                 |
| Lys Leu Val Asp Leu Lys | Leu Lys Lys Leu Leu | Glu Val Gln Pro Gln |
| 740                     | 745                 | 750                 |
| Val Ala Asn Ser Pro Ser | Ser Ala Ala Gln Lys | Ala Val Thr Glu Ser |
| 755                     | 760                 | 765                 |
| Ser Glu Gln Asp Met Lys | Ser Gly Thr Glu Asp | Leu Arg Thr Glu Arg |
| 770                     | 775                 | 780                 |
| Leu Gln Lys Thr Thr Glu | Arg Phe Arg Asn Pro | Val Val Phe Ser Lys |
| 785                     | 790                 | 795                 |
| Asp Ser Thr Val Arg Lys | Thr Gln Leu Gln Ser | Phe Ser Gln Tyr Ile |
| 805                     | 810                 | 815                 |
| Glu Asn Arg Pro Glu Met | Lys Arg Gln Arg Ser | Ile Gln Glu Asp Thr |
| 820                     | 825                 | 830                 |
| Lys Lys Gly Asn Glu Glu | Lys Ala Ala Ile Thr | Glu Thr Gln Arg Lys |
| 835                     | 840                 | 845                 |
| Pro Ser Glu Asp Glu Val | Leu Asn Lys Gly Phe | Lys Asp Ser Ser Gln |
| 850                     | 855                 | 860                 |
| Tyr Val Val Gly Glu Leu | Ala Ala Leu Glu Asn | Glu Gln Lys Gln Ile |
| 865                     | 870                 | 875                 |
| Asp Thr Arg Ala Ala Leu | Val Glu Lys Arg Leu | Arg Tyr Leu Met Asp |
| 885                     | 890                 | 895                 |
| Thr Gly Arg Asn Thr Glu | Glu Glu Glu Ala Met | Met Gln Glu Trp Phe |
| 900                     | 905                 | 910                 |
| Met Leu Val Asn Lys Lys | Asn Ala Leu Ile Arg | Arg Met Asn Gln Leu |
| 915                     | 920                 | 925                 |
| Ser Leu Leu Glu Lys Glu | His Asp Leu Glu Arg | Arg Tyr Glu Leu Leu |
| 930                     | 935                 | 940                 |
| Asn Arg Glu Leu Arg Ala | Met Leu Ala Ile Glu | Asp Trp Gln Lys Thr |
| 945                     | 950                 | 955                 |
| Glu Ala Gln Lys Arg Arg | Glu Gln Leu Leu Leu | Asp Glu Leu Val Ala |
| 965                     | 970                 | 975                 |
| Leu Val Asn Lys Arg Asp | Ala Leu Val Arg Asp | Leu Asp Ala Gln Glu |
| 980                     | 985                 | 990                 |
| Lys Gln Ala Glu Glu Glu | Asp Glu His Leu Glu | Arg Thr Leu Glu Gln |
| 995                     | 1000                | 1005                |
| Asn Lys Gly Lys Met Ala | Lys Lys Glu Glu Lys | Cys Val Leu Gln     |
| 1010                    | 1015                | 1020                |
|                         |                     | 1023                |

<210> 3419  
 <211> 1024  
 <212> PRT  
 <213> Homo sapiens

<400> 3419  
 Leu Asp Glu Tyr Glu Ala Arg Leu Thr Leu Ala Asn Leu Asp Asp Phe  
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 Glu Glu Asp Asn Glu Asp Asp Asp Glu Asn Arg Val Asn Gln Glu Glu  
 20 25 30  
 Lys Ala Ala Lys Ile Thr Glu Leu Ile Asn Lys Leu Asn Phe Leu Asp  
 35 40 45  
 Glu Ala Glu Lys Asp Leu Ala Thr Val Asn Ser Asn Pro Phe Asp Asp  
 50 55 60  
 Pro Asp Ala Ala Glu Leu Asn Pro Phe Gly Asp Pro Asp Ser Glu Glu  
 65 70 75 80  
 Pro Ile Thr Glu Thr Ala Ser Pro Arg Lys Thr Glu Asp Ser Phe Tyr  
 85 90 95  
 Asn Asn Ser Tyr Asn Pro Phe Lys Glu Val Gln Thr Pro Gln Tyr Leu  
 100 105 110  
 Asn Pro Phe Asp Glu Pro Glu Ala Phe Val Thr Ile Lys Asp Ser Pro  
 115 120 125  
 Pro Gln Ser Thr Lys Arg Lys Asn Ile Arg Pro Val Asp Met Ser Lys  
 130 135 140  
 Tyr Leu Tyr Ala Asp Ser Ser Lys Thr Glu Glu Glu Leu Asp Glu  
 145 150 155 160  
 Ser Asn Pro Phe Tyr Glu Pro Lys Ser Thr Pro Pro Pro Asn Asn Leu  
 165 170 175  
 Val Asn Pro Val Gln Glu Leu Glu Thr Glu Arg Arg Val Lys Arg Lys  
 180 185 190  
 Ala Pro Ala Pro Pro Val Leu Ser Pro Lys Thr Gly Val Leu Asn Glu  
 195 200 205  
 Asn Thr Val Ser Ala Gly Lys Asp Leu Ser Thr Ser Pro Lys Pro Ser  
 210 215 220  
 Pro Ile Pro Ser Pro Val Leu Gly Arg Lys Pro Asn Ala Ser Gln Ser  
 225 230 235 240  
 Leu Leu Val Trp Cys Lys Glu Val Thr Lys Asn Tyr Arg Gly Val Lys  
 245 250 255  
 Ile Thr Asn Phe Thr Thr Ser Trp Arg Asn Gly Leu Ser Phe Cys Ala  
 260 265 270  
 Ile Leu His His Phe Arg Pro Asp Leu Ile Asp Tyr Lys Ser Leu Asn  
 275 280 285  
 Pro Gln Asp Ile Lys Glu Asn Asn Lys Lys Ala Tyr Asp Gly Phe Ala  
 290 295 300  
 Ser Ile Gly Ile Ser Arg Leu Leu Glu Pro Ser Asp Met Val Leu Leu  
 305 310 315 320  
 Ala Ile Pro Asp Lys Leu Thr Val Met Thr Tyr Leu Tyr Gln Ile Arg  
 325 330 335  
 Ala His Phe Ser Gly Gln Glu Leu Asn Val Val Gln Ile Glu Glu Asn  
 340 345 350  
 Ser Ser Lys Ser Thr Tyr Lys Val Gly Asn Tyr Glu Thr Asp Thr Asn  
 355 360 365  
 Ser Ser Val Asp Gln Glu Lys Phe Tyr Ala Glu Leu Ser Asp Leu Lys  
 370 375 380  
 Arg Glu Pro Glu Leu Gln Gln Pro Ile Ser Gly Ala Val Asp Phe Leu  
 385 390 395 400  
 Ser Gln Asp Asp Ser Val Phe Val Asn Asp Ser Gly Val Gly Glu Ser  
 405 410 415  
 Glu Ser Glu His Gln Thr Pro Asp Asp His Leu Ser Pro Ser Thr Ala  
 420 425 430  
 Ser Pro Tyr Cys Arg Arg Thr Lys Ser Asp Thr Glu Pro Gln Lys Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 435 | Gln | Gln | Ser | Ser | Gly | Arg | 440 | Thr | Ser | Gly | Ser | Asp | Asp | Pro | Gly | Ile | Cys |
| 450 | Ser | Asn | Thr | Asp | Ser | Thr | 455 | Gln | Ala | Gln | Val | Leu | Leu | Gly | Lys | Lys | Arg |
| 465 | Leu | Leu | Lys | Ala | Glu | Thr | 470 | Leu | Glu | Leu | Ser | Asp | Leu | Tyr | Val | Ser | Asp |
|     |     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
|     | Lys | Lys | Lys | Asp | Met | Ser |     | Pro | Pro | Phe | Ile | Cys | Glu | Glu | Thr | Asp | Glu |
|     |     |     |     | 500 |     |     |     |     | 505 |     |     |     |     |     | 510 |     |     |
|     | Gln | Lys | Leu | Gln | Thr | Leu |     | Asp | Ile | Gly | Ser | Asn | Leu | Glu | Lys | Glu | Lys |
|     |     | 515 |     |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |
|     | Leu | Glu | Asn | Ser | Arg | Ser |     | Leu | Glu | Cys | Arg | Ser | Asp | Pro | Glu | Ser | Pro |
|     |     | 530 |     |     |     |     |     | 535 |     |     |     |     |     | 540 |     |     |     |
|     | Ile | Lys | Lys | Thr | Ser | Leu |     | Ser | Pro | Thr | Ser | Lys | Leu | Gly | Tyr | Ser | Tyr |
| 545 |     |     |     |     |     | 550 |     |     |     |     |     | 555 |     |     |     | 560 |     |
|     | Ser | Arg | Asp | Leu | Asp | Leu |     | Ala | Lys | Lys | Lys | His | Ala | Ser | Leu | Arg | Gln |
|     |     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |     |
|     | Thr | Glu | Ser | Asp | Pro | Asp |     | Ala | Asp | Arg | Thr | Thr | Leu | Asn | His | Ala | Asp |
|     |     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |     |
|     | His | Ser | Ser | Lys | Ile | Val |     | Gln | His | Arg | Leu | Leu | Ser | Arg | Gln | Glu | Glu |
|     |     | 595 |     |     |     |     |     | 600 |     |     |     |     |     | 605 |     |     |     |
|     | Leu | Lys | Glu | Arg | Ala | Arg |     | Val | Leu | Leu | Glu | Gln | Ala | Arg | Arg | Asp | Ala |
|     |     | 610 |     |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
|     | Ala | Leu | Lys | Ala | Gly | Asn |     | Lys | His | Asn | Thr | Asn | Thr | Ala | Thr | Pro | Phe |
| 625 |     |     |     |     |     | 630 |     |     |     |     |     | 635 |     |     |     | 640 |     |
|     | Cys | Asn | Arg | Gln | Leu | Ser |     | Asp | Gln | Gln | Asp | Glu | Glu | Arg | Arg | Arg | Gln |
|     |     |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |
|     | Leu | Arg | Glu | Arg | Ala | Arg |     | Gln | Leu | Ile | Ala | Glu | Ala | Arg | Ser | Gly | Val |
|     |     |     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
|     | Lys | Met | Ser | Glu | Leu | Pro |     | Ser | Tyr | Gly | Glu | Met | Ala | Ala | Glu | Lys | Leu |
|     |     | 675 |     |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
|     | Lys | Glu | Arg | Ser | Lys | Ala |     | Ser | Gly | Asp | Glu | Asn | Asp | Asn | Ile | Glu | Ile |
|     |     | 690 |     |     |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |
|     | Asp | Thr | Asn | Glu | Glu | Ile |     | Pro | Glu | Gly | Phe | Val | Val | Gly | Gly | Gly | Asp |
| 705 |     |     |     |     |     | 710 |     |     |     |     |     | 715 |     |     |     | 720 |     |
|     | Glu | Leu | Thr | Asn | Leu | Glu |     | Asn | Asp | Leu | Asp | Thr | Pro | Glu | Gln | Asn | Ser |
|     |     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |
|     | Lys | Leu | Val | Asp | Leu | Lys |     | Leu | Lys | Lys | Leu | Leu | Glu | Val | Gln | Pro | Gln |
|     |     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |     |
|     | Val | Ala | Asn | Ser | Pro | Ser |     | Ser | Ala | Ala | Gln | Lys | Ala | Val | Thr | Glu | Ser |
|     |     | 755 |     |     |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
|     | Ser | Glu | Gln | Asp | Met | Lys |     | Ser | Gly | Thr | Glu | Asp | Leu | Arg | Thr | Glu | Arg |
|     |     | 770 |     |     |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |
|     | Leu | Gln | Lys | Thr | Thr | Glu |     | Arg | Phe | Arg | Asn | Pro | Val | Val | Phe | Ser | Lys |
| 785 |     |     |     |     |     | 790 |     |     |     |     |     | 795 |     |     |     | 800 |     |
|     | Asp | Ser | Thr | Val | Arg | Lys |     | Thr | Gln | Leu | Gln | Ser | Phe | Ser | Gln | Tyr | Ile |
|     |     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |     |
|     | Glu | Asn | Arg | Pro | Glu | Met |     | Lys | Arg | Gln | Arg | Ser | Ile | Gln | Glu | Asp | Thr |
|     |     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |     |
|     | Lys | Lys | Gly | Asn | Glu | Glu |     | Lys | Ala | Ala | Ile | Thr | Glu | Thr | Gln | Arg | Lys |
|     |     | 835 |     |     |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |
|     | Pro | Ser | Glu | Asp | Glu | Val |     | Leu | Asn | Lys | Gly | Phe | Lys | Asp | Ser | Ser | Gln |
|     |     | 850 |     |     |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |
|     | Tyr | Val | Val | Gly | Glu | Leu |     | Ala | Ala | Leu | Glu | Asn | Glu | Gln | Lys | Gln | Ile |
| 865 |     |     |     |     |     | 870 |     |     |     |     |     | 875 |     |     |     | 880 |     |
|     | Asp | Thr | Arg | Ala | Ala | Leu |     | Val | Glu | Lys | Arg | Leu | Arg | Tyr | Leu | Met | Asp |
|     |     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |     |
|     | Thr | Gly | Arg | Asn | Thr | Glu |     | Glu | Glu | Glu | Ala | Met | Met | Gln | Glu | Trp | Phe |
|     |     |     |     | 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |     |
|     | Met | Leu | Val | Asn | Lys | Lys |     | Asn | Ala | Leu | Ile | Arg | Arg | Met | Asn | Gln | Leu |
|     |     | 915 |     |     |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |
|     | Ser | Leu | Leu | Glu | Lys | Glu |     | His | Asp | Leu | Glu | Arg | Arg | Tyr | Glu | Leu | Leu |
| 930 |     |     |     |     |     | 935 |     |     |     |     |     | 940 |     |     |     |     |     |
|     | Asn | Arg | Glu | Leu | Arg | Ala |     | Met | Leu | Ala | Ile | Glu | Asp | Trp | Gln | Lys | Thr |



|   |     |      |      |      |      |      |
|---|-----|------|------|------|------|------|
| 945   |     | 950  |      | 955  |      | 960  |
| Glu Ala Gln Lys Arg Arg Glu Gln Leu Leu Leu Asp Glu Leu Val Ala |     |      |      |      |      |      |
|   | 965 |      |      | 970  |      | 975  |
| Leu Val Asn Lys Arg Asp Ala Leu Val Arg Asp Leu Asp Ala Gln Glu |     |      |      |      |      |      |
|   | 980 |      |      | 985  |      | 990  |
| Lys Gln Ala Glu Glu Glu Asp Glu His Leu Glu Arg Thr Leu Glu Gln |     |      |      |      |      |      |
|   | 995 |      | 1000 |      | 1005 |      |
| Asn Lys Gly Lys Met Ala Lys Lys Glu Glu Lys Cys Val Leu Gln     |     |      |      |      |      |      |
| 1010  |     | 1015 |      | 1020 |      | 1023 |

<210> 3420  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 3420

|   |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|---|-----|---|----|-----|----|-----|-----|----|--|----|----|-----|----|-----|--|----|
| Glu Asn Leu Gly Pro Asn Tyr Ser His Arg Leu Leu His His Pro Thr |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
| 1   |     | 5 |    |     |    |     |     | 10 |  |    |    |     |    | 15  |  |    |
| Phe Tyr Lys Lys Ile His Lys Lys His His Glu Trp Thr Ala Pro Ile |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 20  |   |    |     |    |     | 25  |    |  |    |    |     | 30 |     |  |    |
| Gly Val Ile Ser Leu Tyr Ala His Pro Ile Glu His Ala Val Ser Asn |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 35  |   |    |     |    | 40  |     |    |  |    |    | 45  |    |     |  |    |
| Met Leu Pro Val Ile Val Gly Pro Leu Val Met Gly Ser His Leu Ser |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 50  |   |    |     | 55 |     |     |    |  |    | 60 |     |    |     |  |    |
| Ser Ile Thr Met Trp Phe Ser Leu Ala Leu Ile Ile Thr Thr Ile Ser |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
| 65  |     |   |    | 70  |    |     |     |    |  | 75 |    |     |    |     |  | 80 |
| His Cys Gly Tyr His Leu Pro Phe Leu Pro Ser Pro Glu Phe His Asp |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   |     |   | 85 |     |    |     |     | 90 |  |    |    |     |    | 95  |  |    |
| Tyr His His Leu Lys Phe Asn Gln Cys Tyr Gly Val Leu Gly Val Leu |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 100 |   |    |     |    |     | 105 |    |  |    |    |     |    | 110 |  |    |
| Asp His Leu His Gly Thr Asp Thr Met Phe Lys Gln Thr Lys Ala Tyr |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 115 |   |    |     |    | 120 |     |    |  |    |    | 125 |    |     |  |    |
| Glu Arg His Val Leu Leu Leu Gly Phe Thr Pro Leu Ser Glu Ser Ile |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
|   | 130 |   |    |     |    | 135 |     |    |  |    |    | 140 |    |     |  |    |
| Pro Asp Ser Pro Lys   |     |   |    |     |    |     |     |    |  |    |    |     |    |     |  |    |
| 145   |     |   |    | 149 |    |     |     |    |  |    |    |     |    |     |  |    |

<210> 3421  
 <211> 661  
 <212> PRT  
 <213> Homo sapiens

<400> 3421

|   |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|---|-----|---|----|----|--|-----|----|----|--|----|----|----|-----|----|----|
| Leu Leu Thr Pro Cys Asp Gly Arg Ile Pro Gly Arg Pro Ser Val Gly |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
| 1   |     | 5 |    |    |  |     |    | 10 |  |    |    |    |     | 15 |    |
| Ala Glu Ser Gly Ser Asp Phe Gln Gln Arg Arg Arg Arg Arg Arg Asp |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|   | 20  |   |    |    |  |     | 25 |    |  |    |    |    | 30  |    |    |
| Pro Glu Glu Pro Glu Lys Thr Glu Leu Ser Glu Arg Glu Leu Ala Val |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|   | 35  |   |    |    |  | 40  |    |    |  |    |    | 45 |     |    |    |
| Ala Val Ala Val Ser Gln Glu Asn Asp Glu Glu Asn Glu Glu Arg Trp |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|   | 50  |   |    |    |  | 55  |    |    |  |    | 60 |    |     |    |    |
| Val Gly Pro Leu Pro Val Glu Ala Thr Leu Ala Lys Lys Arg Lys Val |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
| 65  |     |   |    | 70 |  |     |    |    |  | 75 |    |    |     |    | 80 |
| Leu Glu Phe Glu Arg Val Tyr Leu Asp Asn Leu Pro Ser Ala Ser Met |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|   |     |   | 85 |    |  |     |    | 90 |  |    |    |    |     | 95 |    |
| Tyr Glu Arg Ser Tyr Met His Arg Asp Val Ile Thr His Val Val Cys |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |
|   | 100 |   |    |    |  | 105 |    |    |  |    |    |    | 110 |    |    |
| Thr Lys Thr Asp Phe Ile Ile Thr Ala Ser His Asp Gly His Val Lys |     |   |    |    |  |     |    |    |  |    |    |    |     |    |    |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Phe | Trp | Lys | Lys | Ile | Glu | Glu | Gly | Ile | Glu | Phe | Val | Lys | His | Phe | Arg |
|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Ser | His | Leu | Gly | Val | Ile | Glu | Ser | Ile | Ala | Val | Ser | Ser | Glu | Gly | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Phe | Cys | Ser | Val | Gly | Asp | Asp | Lys | Ala | Met | Lys | Val | Phe | Asp | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Asn | Phe | Asp | Met | Ile | Asn | Met | Leu | Lys | Leu | Gly | Tyr | Phe | Pro | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Cys | Glu | Trp | Ile | Tyr | Cys | Pro | Gly | Asp | Ala | Ile | Ser | Ser | Val | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Ser | Glu | Lys | Ser | Thr | Gly | Lys | Ile | Phe | Ile | Tyr | Asp | Gly | Arg | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Asn | Gln | Pro | Leu | His | Ile | Phe | Asp | Lys | Leu | His | Thr | Ser | Pro | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Thr | Gln | Ile | Arg | Leu | Asn | Pro | Val | Tyr | Lys | Ala | Val | Val | Ser | Ser | Asp |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Lys | Ser | Gly | Met | Ile | Glu | Tyr | Trp | Thr | Gly | Pro | Pro | His | Glu | Tyr | Lys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Phe | Pro | Lys | Asn | Val | Asn | Trp | Glu | Tyr | Lys | Thr | Asp | Thr | Asp | Leu | Tyr |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Phe | Ala | Lys | Cys | Lys | Ala | Tyr | Pro | Thr | Ser | Val | Cys | Phe | Ser | Pro |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asp | Gly | Lys | Lys | Ile | Ala | Thr | Ile | Gly | Ser | Asp | Arg | Lys | Val | Arg | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Phe | Arg | Phe | Val | Thr | Gly | Lys | Leu | Met | Arg | Val | Phe | Asp | Glu | Ser | Leu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Ser | Met | Phe | Thr | Glu | Leu | Gln | Gln | Met | Arg | Gln | Gln | Leu | Pro | Asp | Met |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Phe | Gly | Arg | Arg | Met | Ala | Val | Glu | Arg | Glu | Leu | Glu | Lys | Val | Asp |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Ala | Val | Arg | Leu | Ile | Asn | Ile | Val | Phe | Asp | Glu | Thr | Gly | His | Phe | Val |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Tyr | Gly | Thr | Met | Leu | Gly | Ile | Lys | Val | Ile | Asn | Val | Glu | Thr | Asn |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Arg | Cys | Val | Arg | Ile | Leu | Gly | Lys | Gln | Glu | Asn | Ile | Arg | Val | Met | Gln |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Leu | Ala | Leu | Phe | Gln | Gly | Ile | Ala | Lys | Lys | His | Arg | Ala | Ala | Thr | Thr |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ile | Glu | Met | Lys | Ala | Ser | Glu | Asn | Pro | Val | Leu | Gln | Asn | Ile | Gln | Ala |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Asp | Pro | Thr | Ile | Val | Cys | Thr | Ser | Phe | Lys | Lys | Asn | Arg | Phe | Tyr | Met |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Phe | Thr | Lys | Arg | Glu | Pro | Glu | Asp | Thr | Lys | Ser | Ala | Asp | Ser | Asp | Arg |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Asp | Val | Phe | Asn | Glu | Lys | Pro | Ser | Lys | Glu | Glu | Val | Met | Ala | Ala | Thr |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     |     | 495 |     |
| Gln | Ala | Glu | Gly | Pro | Lys | Arg | Val | Ser | Asp | Ser | Ala | Ile | Ile | His | Thr |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Ser | Met | Gly | Asp | Ile | His | Thr | Lys | Leu | Phe | Pro | Val | Glu | Cys | Pro | Lys |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Thr | Val | Glu | Asn | Phe | Cys | Val | His | Ser | Arg | Asn | Gly | Tyr | Tyr | Asn | Gly |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| His | Thr | Phe | His | Arg | Ile | Ile | Lys | Gly | Phe | Met | Ile | Gln | Thr | Gly | Asp |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Pro | Thr | Gly | Thr | Gly | Met | Gly | Gly | Glu | Ser | Ile | Trp | Gly | Gly | Glu | Phe |
|     |     |     | 565 |     |     |     |     | 570 |     |     |     |     |     | 575 |     |
| Glu | Asp | Glu | Phe | His | Ser | Thr | Leu | Arg | His | Asp | Arg | Pro | Tyr | Thr | Leu |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Ser | Met | Ala | Asn | Ala | Gly | Ser | Asn | Thr | Asn | Gly | Ser | Gln | Phe | Phe | Ile |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Thr | Val | Val | Pro | Thr | Pro | Trp | Leu | Asp | Asn | Lys | His | Thr | Val | Phe | Gly |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Arg | Val | Thr | Lys | Gly | Met | Glu | Val | Val | Gln | Arg | Ile | Ser | Asn | Val | Lys |

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<210> 3422
<211> 685
<212> PRT
<213> Homo sapiens
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5109

|   |     |     |     |     |  |     |
|---|-----|-----|-----|-----|--|-----|
| 385   |     | 390 |     | 395 |  | 400 |
| Leu Cys Glu Leu Phe Asn Trp Leu Glu Lys Glu Val Pro Lys Gly Gly |     |     |     |     |  |     |
|   | 405 |     | 410 |     |  | 415 |
| Val Thr Glu Ile Ser Ala Ala Asp Lys Ala Glu Glu Phe Arg Arg Gln |     |     |     |     |  |     |
|   | 420 |     | 425 |     |  | 430 |
| Gln Ala Asp Phe Val Asp Leu Ser Phe Pro Thr Ile Ser Ser Thr Gly |     |     |     |     |  |     |
|   | 435 |     | 440 |     |  | 445 |
| Pro Asn Gly Ala Ile Ile His Tyr Ala Pro Val Pro Glu Thr Asn Arg |     |     |     |     |  |     |
|   | 450 |     | 455 |     |  | 460 |
| Thr Leu Ser Leu Asp Glu Val Tyr Leu Ile Asp Ser Gly Ala Gln Tyr |     |     |     |     |  |     |
| 465   |     | 470 |     | 475 |  | 480 |
| Lys Asp Gly Thr Thr Asp Val Thr Arg Thr Met His Phe Gly Thr Pro |     |     |     |     |  |     |
|   | 485 |     | 490 |     |  | 495 |
| Thr Ala Tyr Glu Lys Glu Cys Phe Thr Tyr Val Leu Lys Gly His Ile |     |     |     |     |  |     |
|   | 500 |     | 505 |     |  | 510 |
| Ala Val Ser Ala Ala Val Phe Pro Thr Gly Thr Lys Gly His Leu Leu |     |     |     |     |  |     |
|   | 515 |     | 520 |     |  | 525 |
| Asp Ser Phe Ala Arg Ser Ala Leu Trp Asp Ser Gly Leu Asp Tyr Leu |     |     |     |     |  |     |
|   | 530 |     | 535 |     |  | 540 |
| His Gly Thr Gly His Gly Val Gly Ser Phe Leu Asn Val His Glu Gly |     |     |     |     |  |     |
| 545   |     | 550 |     | 555 |  | 560 |
| Pro Cys Gly Ile Ser Tyr Lys Thr Phe Ser Asp Glu Pro Leu Glu Ala |     |     |     |     |  |     |
|   | 565 |     | 570 |     |  | 575 |
| Gly Met Ile Val Thr Asp Glu Pro Gly Tyr Tyr Glu Asp Gly Ala Phe |     |     |     |     |  |     |
|   | 580 |     | 585 |     |  | 590 |
| Gly Ile Arg Ile Glu Asn Val Val Leu Val Val Pro Val Lys Thr Lys |     |     |     |     |  |     |
|   | 595 |     | 600 |     |  | 605 |
| Tyr Asn Phe Asn Asn Arg Gly Ser Leu Thr Phe Glu Pro Leu Thr Leu |     |     |     |     |  |     |
|   | 610 |     | 615 |     |  | 620 |
| Val Pro Ile Gln Thr Lys Met Ile Asp Val Asp Ser Leu Thr Asp Lys |     |     |     |     |  |     |
| 625   |     | 630 |     | 635 |  | 640 |
| Glu Cys Asp Trp Leu Asn Asn Tyr His Leu Thr Cys Arg Asp Val Ile |     |     |     |     |  |     |
|   | 645 |     | 650 |     |  | 655 |
| Gly Lys Glu Leu Gln Lys Gln Gly Arg Gln Glu Ala Leu Glu Trp Leu |     |     |     |     |  |     |
|   | 660 |     | 665 |     |  | 670 |
| Ile Arg Glu Thr Gln Pro Ile Ser Lys Gln His                     |     |     |     |     |  |     |
|   | 675 |     | 680 |     |  | 683 |

&lt;210&gt; 3423

&lt;211&gt; 1529

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3423

|   |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|---|-----|---|--|-----|--|--|--|--|--|--|--|--|-----|--|
| Phe Lys Met Pro Glu Asn Pro Ala Thr Asp Lys Leu Gln Val Leu Gln |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
| 1   |     | 5 |  | 10  |  |  |  |  |  |  |  |  | 15  |  |
| Val Leu Asp Arg Leu Lys Met Lys Leu Gln Glu Lys Gly Asp Thr Ser |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 20  |   |  | 25  |  |  |  |  |  |  |  |  | 30  |  |
| Gln Asn Glu Lys Leu Ser Met Phe Tyr Glu Thr Leu Lys Ser Pro Leu |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 35  |   |  | 40  |  |  |  |  |  |  |  |  | 45  |  |
| Phe Asn Gln Ile Leu Thr Leu Gln Gln Ser Ile Lys Gln Leu Lys Gly |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 50  |   |  | 55  |  |  |  |  |  |  |  |  | 60  |  |
| Gln Leu Asn His Ile Pro Ser Asp Cys Ser Ala Asn Phe Asp Phe Ser |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 65  |   |  | 70  |  |  |  |  |  |  |  |  | 75  |  |
| Arg Lys Gly Leu Leu Val Phe Thr Asp Gly Ser Ile Thr Asn Gly Asn |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 85  |   |  | 90  |  |  |  |  |  |  |  |  | 95  |  |
| Val His Arg Pro Ser Asn Asn Ser Thr Val Ser Gly Leu Phe Pro Trp |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 100 |   |  | 105 |  |  |  |  |  |  |  |  | 110 |  |
| Thr Pro Lys Leu Gly Asn Glu Asp Phe Asn Ser Val Ile Gln Gln Met |     |   |  |     |  |  |  |  |  |  |  |  |     |  |
|   | 115 |   |  | 120 |  |  |  |  |  |  |  |  | 125 |  |
| Ala Gln Gly Arg Gln Ile Glu Tyr Ile Asp Ile Glu Arg Pro Ser Thr |     |   |  |     |  |  |  |  |  |  |  |  |     |  |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 130   |     | 135 |     | 140 |
| Gly Gly Leu Gly Phe Ser Val Val Ala Leu Arg Ser Gln Asn Leu Gly |     |     |     |     |
| 145   |     | 150 |     | 155 |
| Lys Val Asp Ile Phe Val Lys Asp Val Gln Pro Gly Ser Val Ala Asp |     |     |     | 160 |
|   | 165 |     | 170 | 175 |
| Arg Asp Gln Arg Leu Lys Glu Asn Asp Gln Ile Leu Ala Ile Asn His |     |     |     |     |
|   | 180 |     | 185 | 190 |
| Thr Pro Leu Asp Gln Asn Ile Ser His Gln Gln Ala Ile Ala Leu Leu |     |     |     |     |
|   | 195 |     | 200 | 205 |
| Gln Gln Thr Thr Gly Ser Leu Arg Leu Ile Val Ala Arg Glu Pro Val |     |     |     |     |
|   | 210 |     | 215 | 220 |
| His Thr Lys Ser Ser Thr Ser Ser Ser Leu Asn Asp Thr Thr Leu Pro |     |     |     |     |
| 225   |     | 230 |     | 235 |
| Glu Thr Val Cys Trp Gly His Val Glu Glu Val Glu Leu Ile Asn Asp |     |     |     | 240 |
|   | 245 |     | 250 | 255 |
| Gly Ser Gly Leu Gly Phe Gly Ile Val Gly Gly Lys Thr Ser Gly Val |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Val Val Arg Thr Ile Val Pro Gly Gly Leu Ala Asp Arg Asp Gly Arg |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Leu Gln Thr Gly Asp His Ile Leu Lys Ile Gly Gly Thr Asn Val Gln |     |     |     |     |
|   | 290 |     | 295 | 300 |
| Gly Met Thr Ser Glu Gln Val Ala Gln Val Leu Arg Asn Cys Gly Asn |     |     |     |     |
| 305   |     | 310 |     | 315 |
| Ser Val Arg Met Leu Val Ala Arg Asp Pro Ala Gly Asp Ile Ser Val |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Thr Pro Pro Ala Pro Ala Ala Leu Pro Val Ala Leu Pro Thr Val Ala |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Ser Lys Gly Pro Gly Ser Asp Ser Ser Leu Phe Glu Thr Tyr Asn Val |     |     |     |     |
|   | 355 |     | 360 | 365 |
| Glu Leu Val Arg Lys Asp Gly Gln Ser Leu Gly Ile Arg Ile Val Gly |     |     |     |     |
|   | 370 |     | 375 | 380 |
| Tyr Val Gly Thr Ser His Thr Gly Glu Ala Ser Gly Ile Tyr Val Lys |     |     |     |     |
| 385   |     | 390 |     | 395 |
| Ser Ile Ile Pro Gly Ser Ala Ala Tyr His Asn Gly His Ile Gln Val |     |     |     |     |
|   | 405 |     | 410 | 415 |
| Asn Asp Lys Ile Val Ala Val Asp Gly Val Asn Ile Gln Gly Phe Ala |     |     |     |     |
|   | 420 |     | 425 | 430 |
| Asn His Asp Val Val Glu Val Leu Arg Asn Ala Gly Gln Val Val His |     |     |     |     |
|   | 435 |     | 440 | 445 |
| Leu Thr Leu Val Arg Arg Lys Thr Ser Ser Ser Thr Ser Pro Leu Glu |     |     |     |     |
|   | 450 |     | 455 | 460 |
| Pro Pro Ser Asp Arg Gly Thr Val Val Glu Pro Leu Lys Pro Pro Ala |     |     |     |     |
| 465   |     | 470 |     | 475 |
| Leu Phe Leu Thr Gly Ala Val Glu Thr Glu Thr Asn Val Asp Gly Glu |     |     |     |     |
|   | 485 |     | 490 | 495 |
| Asp Glu Glu Ile Lys Glu Arg Ile Asp Thr Leu Lys Asn Asp Asn Ile |     |     |     |     |
|   | 500 |     | 505 | 510 |
| Gln Ala Leu Glu Lys Leu Glu Lys Val Pro Asp Ser Pro Glu Asn Glu |     |     |     |     |
|   | 515 |     | 520 | 525 |
| Leu Lys Ser Arg Trp Glu Asn Leu Leu Gly Pro Asp Tyr Glu Val Met |     |     |     |     |
|   | 530 |     | 535 | 540 |
| Val Ala Thr Leu Asp Thr Gln Ile Ala Asp Asp Ala Glu Leu Gln Lys |     |     |     |     |
| 545   |     | 550 |     | 555 |
| Tyr Ser Lys Leu Leu Pro Ile His Thr Leu Arg Leu Gly Val Glu Val |     |     |     |     |
|   | 565 |     | 570 | 575 |
| Asp Ser Phe Asp Gly His His Tyr Ile Ser Ser Ile Val Ser Gly Gly |     |     |     |     |
|   | 580 |     | 585 | 590 |
| Pro Val Asp Thr Leu Gly Leu Leu Gln Pro Glu Asp Glu Leu Leu Glu |     |     |     |     |
|   | 595 |     | 600 | 605 |
| Val Asn Gly Met Gln Leu Tyr Gly Lys Ser Arg Arg Glu Ala Val Ser |     |     |     |     |
|   | 610 |     | 615 | 620 |
| Phe Leu Lys Glu Val Pro Pro Pro Phe Thr Leu Val Cys Cys Arg Arg |     |     |     |     |
| 625   |     | 630 |     | 635 |
| Leu Phe Asp Asp Glu Ala Ser Val Asp Glu Pro Arg Arg Thr Glu Thr |     |     |     | 640 |

|      |      |     |      |      |     |      |      |      |      |      |      |      |      |      |      |  |
|------|------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|--|
| Ser  | Leu  | Pro | Glu  | Thr  | Glu | Val  | Asp  | His  | Asn  | Met  | Asp  | Val  | Asn  | Thr  | Glu  |  |
|      |      |     | 660  |      |     |      |      | 665  |      |      |      |      | 670  |      |      |  |
| Glu  | Asp  | Asp | Asp  | Gly  | Glu | Leu  | Ala  | Leu  | Trp  | Ser  | Pro  | Glu  | Val  | Lys  | Ile  |  |
|      |      | 675 |      |      |     |      | 680  |      |      |      |      | 685  |      |      |      |  |
| Val  | Glu  | Leu | Val  | Lys  | Asp | Cys  | Lys  | Gly  | Leu  | Gly  | Phe  | Ser  | Ile  | Leu  | Asp  |  |
|      | 690  |     |      |      |     | 695  |      |      |      |      | 700  |      |      |      |      |  |
| Tyr  | Gln  | Asp | Pro  | Leu  | Asp | Pro  | Thr  | Arg  | Ser  | Val  | Ile  | Val  | Ile  | Arg  | Ser  |  |
| 705  |      |     |      |      | 710 |      |      |      |      | 715  |      |      |      |      | 720  |  |
| Leu  | Val  | Ala | Asp  | Gly  | Val | Ala  | Glu  | Arg  | Ser  | Gly  | Gly  | Leu  | Leu  | Pro  | Gly  |  |
|      |      |     |      | 725  |     |      |      |      | 730  |      |      |      |      | 735  |      |  |
| Asp  | Arg  | Leu | Val  | Ser  | Val | Asn  | Glu  | Tyr  | Cys  | Leu  | Asp  | Asn  | Thr  | Ser  | Leu  |  |
|      |      |     | 740  |      |     |      |      | 745  |      |      |      |      | 750  |      |      |  |
| Ala  | Glu  | Ala | Val  | Glu  | Ile | Leu  | Lys  | Ala  | Val  | Pro  | Pro  | Gly  | Leu  | Val  | His  |  |
|      |      | 755 |      |      |     |      | 760  |      |      |      |      | 765  |      |      |      |  |
| Leu  | Gly  | Ile | Cys  | Lys  | Pro | Leu  | Val  | Glu  | Asp  | Asn  | Glu  | Glu  | Glu  | Ser  | Cys  |  |
|      | 770  |     |      |      |     | 775  |      |      |      |      | 780  |      |      |      |      |  |
| Tyr  | Ile  | Leu | His  | Ser  | Ser | Ser  | Asn  | Glu  | Asp  | Lys  | Thr  | Glu  | Phe  | Ser  | Gly  |  |
| 785  |      |     |      |      | 790 |      |      |      |      | 795  |      |      |      |      | 800  |  |
| Thr  | Ile  | His | Asp  | Ile  | Asn | Ser  | Ser  | Leu  | Ile  | Leu  | Glu  | Ala  | Pro  | Lys  | Gly  |  |
|      |      |     |      | 805  |     |      |      |      | 810  |      |      |      |      | 815  |      |  |
| Phe  | Arg  | Asp | Glu  | Pro  | Tyr | Phe  | Lys  | Glu  | Glu  | Leu  | Val  | Asp  | Glu  | Pro  | Phe  |  |
|      |      |     | 820  |      |     |      |      | 825  |      |      |      |      | 830  |      |      |  |
| Leu  | Asp  | Leu | Gly  | Lys  | Ser | Phe  | His  | Ser  | Gln  | Gln  | Lys  | Glu  | Ile  | Glu  | Gln  |  |
|      |      | 835 |      |      |     |      | 840  |      |      |      |      | 845  |      |      |      |  |
| Ser  | Lys  | Glu | Ala  | Trp  | Glu | Met  | His  | Glu  | Phe  | Leu  | Thr  | Pro  | Arg  | Leu  | Gln  |  |
|      | 850  |     |      |      |     | 855  |      |      |      |      | 860  |      |      |      |      |  |
| Glu  | Met  | Asp | Glu  | Glu  | Arg | Glu  | Met  | Leu  | Val  | Asp  | Glu  | Glu  | Tyr  | Glu  | Leu  |  |
| 865  |      |     |      |      | 870 |      |      |      |      | 875  |      |      |      |      | 880  |  |
| Tyr  | Gln  | Asp | Pro  | Ser  | Pro | Ser  | Met  | Glu  | Leu  | Tyr  | Pro  | Leu  | Ser  | His  | Ile  |  |
|      |      |     |      | 885  |     |      |      |      | 890  |      |      |      |      | 895  |      |  |
| Gln  | Glu  | Ala | Thr  | Pro  | Val | Pro  | Ser  | Val  | Asn  | Glu  | Leu  | His  | Phe  | Gly  | Thr  |  |
|      |      |     |      | 900  |     |      |      | 905  |      |      |      |      | 910  |      |      |  |
| Gln  | Trp  | Leu | His  | Asp  | Asn | Glu  | Pro  | Ser  | Glu  | Ser  | Gln  | Glu  | Ala  | Arg  | Thr  |  |
|      |      | 915 |      |      |     |      | 920  |      |      |      |      | 925  |      |      |      |  |
| Gly  | Arg  | Thr | Val  | Tyr  | Ser | Gln  | Glu  | Ala  | Gln  | Pro  | Tyr  | Gly  | Tyr  | Cys  | Pro  |  |
|      | 930  |     |      |      |     | 935  |      |      |      |      | 940  |      |      |      |      |  |
| Glu  | Asn  | Val | Met  | Lys  | Glu | Asn  | Phe  | Val  | Met  | Glu  | Ser  | Leu  | Pro  | Ser  | Val  |  |
| 945  |      |     |      |      | 950 |      |      |      |      | 955  |      |      |      |      | 960  |  |
| Pro  | Ser  | Thr | Glu  | Gly  | Asn | Ser  | Gln  | Gln  | Gly  | Arg  | Phe  | Asp  | Asp  | Leu  | Glu  |  |
|      |      |     |      | 965  |     |      |      |      | 970  |      |      |      |      | 975  |      |  |
| Asn  | Leu  | Asn | Ser  | Leu  | Ala | Lys  | Thr  | Ser  | Leu  | Asp  | Leu  | Gly  | Met  | Ile  | Pro  |  |
|      |      |     | 980  |      |     |      |      | 985  |      |      |      |      | 990  |      |      |  |
| Asn  | Asp  | Val | Gln  | Gly  | Pro | Ser  | Leu  | Leu  | Ile  | Asp  | Leu  | Pro  | Val  | Val  | Ala  |  |
|      |      | 995 |      |      |     |      | 1000 |      |      |      |      | 1005 |      |      |      |  |
| Gln  | Arg  | Arg | Glu  | Gln  | Glu | Asp  | Leu  | Pro  | Leu  | Tyr  | Gln  | His  | Gln  | Ala  | Thr  |  |
|      | 1010 |     |      |      |     | 1015 |      |      |      |      | 1020 |      |      |      |      |  |
| Arg  | Val  | Ile | Ser  | Lys  | Ala | Ser  | Ala  | Tyr  | Thr  | Gly  | Met  | Leu  | Ser  | Ser  | Arg  |  |
| 1025 |      |     |      | 1030 |     |      |      |      |      | 1035 |      |      |      |      | 1040 |  |
| Tyr  | Ala  | Thr | Asp  | Thr  | Cys | Glu  | Leu  | Pro  | Glu  | Arg  | Glu  | Glu  | Gly  | Glu  | Gly  |  |
|      |      |     |      | 1045 |     |      |      |      | 1050 |      |      |      |      | 1055 |      |  |
| Glu  | Glu  | Thr | Pro  | Asn  | Phe | Ser  | His  | Trp  | Gly  | Pro  | Pro  | Arg  | Ile  | Val  | Glu  |  |
|      |      |     | 1060 |      |     |      |      | 1065 |      |      |      |      | 1070 |      |      |  |
| Ile  | Phe  | Arg | Glu  | Pro  | Asn | Val  | Ser  | Leu  | Gly  | Ile  | Ser  | Ile  | Val  | Gly  | Gly  |  |
|      | 1075 |     |      |      |     |      | 1080 |      |      |      |      | 1085 |      |      |      |  |
| Gln  | Thr  | Val | Ile  | Lys  | Arg | Leu  | Lys  | Asn  | Gly  | Glu  | Glu  | Leu  | Lys  | Gly  | Ile  |  |
|      | 1090 |     |      |      |     | 1095 |      |      |      |      | 1100 |      |      |      |      |  |
| Phe  | Ile  | Lys | Gln  | Val  | Leu | Glu  | Asp  | Ser  | Pro  | Ala  | Gly  | Lys  | Thr  | Asn  | Ala  |  |
| 1105 |      |     |      | 1110 |     |      |      |      |      | 1115 |      |      |      |      | 1120 |  |
| Leu  | Lys  | Thr | Gly  | Asp  | Lys | Ile  | Leu  | Glu  | Val  | Ser  | Gly  | Val  | Asp  | Leu  | Gln  |  |
|      |      |     | 1125 |      |     |      |      |      | 1130 |      |      |      |      | 1135 |      |  |
| Asn  | Ala  | Ser | His  | Ser  | Glu | Ala  | Val  | Glu  | Ala  | Ile  | Lys  | Asn  | Ala  | Gly  | Asn  |  |
|      |      |     | 1140 |      |     |      |      | 1145 |      |      |      |      | 1150 |      |      |  |
| Pro  | Val  | Val | Phe  | Ile  | Val | Gln  | Ser  | Leu  | Ser  | Ser  | Thr  | Pro  | Arg  | Val  | Ile  |  |



1155 1160 1165  
 Pro Asn Val His Asn Lys Ala Asn Lys Ile Thr Gly Asn Gln Asn Gln  
 1170 1175 1180  
 Asp Thr Gln Glu Lys Lys Glu Lys Arg Gln Gly Thr Ala Pro Pro Pro  
 1185 1190 1195 1200  
 Met Lys Leu Pro Pro Pro Tyr Lys Ala Leu Thr Asp Asp Ser Asp Glu  
 1205 1210 1215  
 Asn Glu Glu Glu Asp Ala Phe Thr Asp Gln Lys Ile Arg Gln Arg Tyr  
 1220 1225 1230  
 Ala Asp Leu Pro Gly Glu Leu His Ile Ile Glu Leu Glu Lys Asp Lys  
 1235 1240 1245  
 Asn Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp Arg Ser Arg Met  
 1250 1255 1260  
 Ser Ile Phe Val Val Gly Ile Asn Pro Glu Gly Pro Ala Ala Ala Asp  
 1265 1270 1275 1280  
 Gly Arg Met His Ile Gly Asp Glu Leu Leu Glu Ile Asn Asn Gln Ile  
 1285 1290 1295  
 Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ala Ile Ile Lys Thr Ala  
 1300 1305 1310  
 Pro Ser Lys Val Lys Leu Val Phe Ile Arg Asn Glu Asp Ala Val Asn  
 1315 1320 1325  
 Gln Met Ala Val Thr Pro Phe Pro Val Pro Ser Ser Ser Pro Ser Ser  
 1330 1335 1340  
 Ile Glu Asp Gln Ser Gly Thr Glu Pro Ile Ser Ser Glu Glu Asp Gly  
 1345 1350 1355 1360  
 Ser Leu Glu Val Gly Ile Lys Gln Leu Pro Glu Ser Glu Ser Phe Lys  
 1365 1370 1375  
 Leu Ala Val Ser Gln Met Lys Gln Gln Lys Tyr Pro Thr Lys Val Ser  
 1380 1385 1390  
 Phe Ser Ser Gln Glu Ile Pro Leu Ala Pro Ala Ser Ser Tyr His Ser  
 1395 1400 1405  
 Thr Asp Ala Asp Phe Thr Gly Tyr Gly Gly Phe Gln Ala Pro Leu Ser  
 1410 1415 1420  
 Val Asp Pro Ala Thr Cys Pro Ile Val Pro Gly Gln Glu Met Ile Ile  
 1425 1430 1435 1440  
 Glu Ile Ser Lys Arg Arg Ser Gly Leu Gly Leu Ser Ile Val Gly Gly  
 1445 1450 1455  
 Lys Asp Thr Pro Leu Val Asn Gly Val Asp Leu Arg Asn Ser Ser His  
 1460 1465 1470  
 Glu Glu Ala Ile Thr Ala Leu Arg Gln Thr Pro Gln Lys Val Arg Leu  
 1475 1480 1485  
 Val Val Tyr Arg Asp Glu Ala His Tyr Arg Asp Glu Glu Asn Leu Glu  
 1490 1495 1500  
 Ile Phe Pro Val Asp Leu Gln Lys Lys Ala Gly Arg Gly Leu Gly Leu  
 1505 1510 1515 1520  
 Ser Ile Val Gly Lys Arg  
 1525 1526

<210> 3424  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 3424  
 His Ala Ser Glu Arg Val Val Gln Leu Pro Asp Phe Val Trp Asp Gln  
 1 5 10 15  
 Tyr Thr His Ser Leu Gly Arg Val Glu Arg Glu Phe Lys Asn Arg Lys  
 20 25 30  
 Arg His Thr Arg Arg Val Lys Leu Val Phe Asp Lys Gly Leu Pro Ala  
 35 40 45  
 Arg Pro Lys Ser Pro Leu Asp Pro Lys Lys Asp Gly Glu Ser Leu Ser

```
<210> 3425  
<211> 359  
<212> PRT  
<213> Homo sapiens
```

5114

|   |   |     |
|---|---|-----|
| 130   | 135                                     | 140 |
| Val Gln Lys Tyr Phe Ile   | Lys Leu Thr Lys Ala Gly Ile Pro Val Pro |     |
| 145   | 150                                     | 155 |
| Gly Arg Thr Pro Asn Leu Tyr Ile Tyr Ser Lys Lys Ser Ser Thr Ser |   | 160 |
|   | 165                                     | 170 |
| Arg Arg Gln His Pro Leu Asn Lys His Leu Phe Lys Pro Gly Thr Phe |   | 175 |
|   | 180                                     | 185 |
| Met Thr Ser His Glu Pro Pro Val Tyr Met Asp Glu Asp Asp Asp Arg |   | 190 |
|   | 195                                     | 200 |
| Ser Cys Phe His Ser His Met Asn Thr Ala Val Glu Asp Ala Ser Asp |   | 205 |
| 210   | 215                                     | 220 |
| Asp Glu Ser Ile Pro Ile Met Tyr Arg Asn Leu Pro Glu Tyr Lys Glu |   | 225 |
|   | 230                                     | 235 |
| Leu Leu Gln Phe Lys Lys Leu Lys Lys Gln Lys Leu Gln His Met Gln |   | 240 |
|   | 245                                     | 250 |
| Ala Glu Ser Gly Phe Val Gln His Val Gly Phe Lys Cys Asp Asn Cys |   | 255 |
|   | 260                                     | 265 |
| Gly Ile Glu Pro Ile Gln Gly Val Arg Trp His Cys Arg Asp Cys Pro |   | 270 |
|   | 275                                     | 280 |
| Pro Glu Met Ser Leu Asp Phe Cys Asp Ser Cys Ser Asp Cys Leu His |   | 285 |
|   | 290                                     | 295 |
| Glu Thr Asp Ile His Lys Gly Asp His Gln Leu Glu Pro Ile Tyr Arg |   | 300 |
| 305   | 310                                     | 315 |
| Ser Glu Thr Phe Leu Asp Arg Asp Tyr Cys Val Ser Gln Gly Thr Ser |   | 320 |
|   | 325                                     | 330 |
| Tyr Asn Tyr Leu Asp Pro Asn Tyr Phe Pro Ala Asn Arg             |   | 335 |
|   | 340                                     | 345 |
|   |   | 349 |

&lt;210&gt; 3426

&lt;211&gt; 518

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3426

|   |     |
|---|-----|
| Leu Phe Val Val Val His Asp Asp Pro Arg Trp Gly Thr Pro Arg Tyr |     |
| 1   | 5   |
| Trp Leu Gly Ala Leu Tyr Arg Asn Gln Gln Ser Ser Pro Thr Ala Pro | 10  |
|   | 15  |
|   | 20  |
| Pro Gly Leu Leu Pro Leu Glu Tyr Phe Pro Ala Ala Pro His Cys Ser | 25  |
|   | 30  |
|   | 35  |
| His Ser Arg Gln Trp Arg Cys Ser Gln Thr His Arg Ile His His His | 40  |
|   | 45  |
|   | 50  |
| Pro Gln Met Leu Gly Pro Cys Arg Gln Glu Ile Cys Gly Ile Thr Met | 55  |
| 65  | 60  |
|   | 65  |
| Ala Ala Gly Thr Leu Tyr Thr Tyr Pro Glu Asn Trp Arg Ala Phe Lys | 70  |
|   | 75  |
|   | 80  |
|   | 85  |
| Ala Leu Ile Ala Ala Gln Tyr Ser Gly Ala Gln Val Arg Val Leu Ser | 90  |
|   | 95  |
|   | 100 |
| Ala Pro Pro His Phe His Phe Gly Gln Thr Asn Arg Thr Pro Glu Phe | 105 |
|   | 110 |
|   | 115 |
| Leu Arg Lys Phe Pro Ala Gly Lys Val Pro Ala Phe Glu Gly Asp Asp | 120 |
|   | 125 |
|   | 130 |
| Gly Phe Cys Val Phe Glu Ser Asn Ala Ile Ala Tyr Tyr Val Ser Asn | 135 |
| 145   | 140 |
|   | 145 |
| Glu Glu Leu Arg Gly Ser Thr Pro Glu Ala Ala Ala Gln Val Val Gln | 150 |
|   | 155 |
|   | 160 |
|   | 165 |
| Trp Val Ser Phe Ala Asp Ser Asp Ile Val Pro Pro Ala Ser Thr Trp | 170 |
|   | 175 |
|   | 180 |
| Val Phe Pro Thr Leu Gly Ile Met His His Asn Lys Gln Ala Thr Glu | 185 |
|   | 190 |
|   | 195 |
| Asn Ala Lys Glu Glu Val Arg Arg Ile Leu Gly Leu Leu Asp Ala Tyr | 200 |
|   | 205 |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 210                     | 215                 | 220                 |
| Leu Lys Thr Arg Thr Phe | Leu Val Gly Glu Arg | Val Thr Leu Ala Asp |
| 225                     | 230                 | 235                 |
| Ile Thr Val Val Cys Thr | Leu Leu Trp Leu Tyr | Lys Gln Val Leu Glu |
| 245                     | 250                 | 255                 |
| Pro Ser Phe Arg Gln Ala | Phe Pro Asn Thr Asn | Arg Trp Phe Leu Thr |
| 260                     | 265                 | 270                 |
| Cys Ile Asn Gln Pro Gln | Phe Arg Ala Val Phe | Gly Glu Val Lys Leu |
| 275                     | 280                 | 285                 |
| Cys Glu Lys Met Ala Gln | Phe Asp Ala Lys Lys | Phe Ala Glu Thr Gln |
| 290                     | 295                 | 300                 |
| Pro Lys Lys Asp Thr Pro | Arg Lys Glu Lys Gly | Ser Arg Glu Glu Lys |
| 305                     | 310                 | 315                 |
| Gln Lys Pro Gln Ala Glu | Arg Lys Glu Glu Lys | Lys Ala Ala Ala Pro |
| 325                     | 330                 | 335                 |
| Ala Pro Glu Glu Glu Met | Asp Glu Cys Glu Gln | Ala Leu Ala Ala Glu |
| 340                     | 345                 | 350                 |
| Pro Lys Ala Lys Asp Pro | Phe Ala His Leu Pro | Lys Ser Thr Phe Val |
| 355                     | 360                 | 365                 |
| Leu Asp Glu Phe Lys Arg | Lys Tyr Ser Asn Glu | Asp Thr Leu Ser Val |
| 370                     | 375                 | 380                 |
| Ala Leu Pro Tyr Phe Trp | Glu His Phe Asp Lys | Asp Gly Trp Ser Leu |
| 385                     | 390                 | 395                 |
| Trp Tyr Ser Glu Tyr Arg | Phe Pro Glu Glu Leu | Thr Gln Thr Phe Met |
| 405                     | 410                 | 415                 |
| Ser Cys Asn Leu Ile Thr | Gly Met Phe Gln Arg | Leu Asp Lys Leu Arg |
| 420                     | 425                 | 430                 |
| Lys Asn Ala Phe Ala Ser | Val Ile Leu Phe Gly | Thr Asn Asn Ser Ser |
| 435                     | 440                 | 445                 |
| Ser Ile Ser Gly Val Trp | Val Phe Arg Gly Gln | Glu Leu Ala Phe Pro |
| 450                     | 455                 | 460                 |
| Leu Ser Pro Asp Trp Gln | Val Asp Tyr Glu Ser | Tyr Thr Trp Arg Lys |
| 465                     | 470                 | 475                 |
| Leu Asp Pro Gly Ser Glu | Glu Thr Gln Thr Leu | Val Arg Glu Tyr Phe |
| 485                     | 490                 | 495                 |
| Ser Trp Glu Gly Ala Phe | Gln His Val Gly Lys | Ala Phe Asn Gln Gly |
| 500                     | 505                 | 510                 |
| Lys Ile Phe Lys         |                     |                     |
| 515 516                 |                     |                     |

<210> 3427  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 3427  
 Thr Ala Ala Arg Arg Arg Gln Lys Gly Thr Ala Ala Arg Arg Arg Gln  
 1 5 10 15  
 Lys Gly Thr Ala Ala Arg Arg Arg Gln Lys Gly Thr Ala Ala Arg Arg  
 20 25 30  
 Arg Gln Lys Gly Thr Ala Ala Arg Arg Arg Gln Lys Gly Thr Ala Ala  
 35 40 45  
 Arg Arg Arg Gln Lys Gly Thr Ala Ala Arg Arg Arg Gln Lys Gly Thr  
 50 55 60  
 Ala Ala Arg Arg Arg Gln Lys Gly Thr Ala Ala Arg Arg Arg Gln Lys  
 65 70 75 80  
 Gly Thr Ala Ala Arg Arg Arg Gln Lys Gly Thr Ala Ala Arg Arg Arg  
 85 90 95  
 Gln Lys Gly Leu Ser Asn Leu Asp Ala Ala Glu Trp Leu Pro Pro Lys  
 100 105 110  
 Lys Gly Gly Glu Lys Lys Lys Gly Pro Phe Leu Ala Ile Asn Glu Val

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Val Thr Arg Glu Tyr Pro Ile Asn Ile Leu Lys Arg Ile His Gly Val |     |     |
| 130   | 135 | 140 |
| Gly Phe Lys Lys Arg Ala Pro Arg Ala Leu Lys Glu Ile Arg Lys Phe |     |     |
| 145   | 150 | 155 |
| Ala Met Lys Glu Met Gly Thr Pro Asp Val Arg Ile Asp Thr Arg Leu |     |     |
| 165   | 170 | 175 |
| Asn Lys Ala Val Trp Ala Lys Gly Ile Arg Asn Val Pro Tyr Arg Ile |     |     |
| 180   | 185 | 190 |
| Arg Val Arg Leu Ser Arg Lys Arg Asn Glu Asp Glu Asp Ser Pro Asn |     |     |
| 195   | 200 | 205 |
| Lys Leu Tyr Thr Leu Val Thr Tyr Val Pro Val Thr Thr Phe Lys Asn |     |     |
| 210   | 215 | 220 |
| Leu Gln Thr Val Asn Val Asp Glu Asn                             |     |     |
| 225   | 230 | 233 |

&lt;210&gt; 3428

&lt;211&gt; 646

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3428

|   |     |     |
|---|-----|-----|
| Leu Pro Leu Ser Leu Ser Phe Ser Glu Met Pro Leu Pro Leu Leu Pro |     |     |
| 1   | 5   | 10  |
| Met Asp Leu Lys Gly Glu Pro Gly Pro Gly Lys Pro Gly Pro Trp     |     |     |
| 20  | 25  | 30  |
| Gly Pro Pro Gly Pro Pro Gly Phe Pro Gly Lys Pro Gly His Gly Lys |     |     |
| 35  | 40  | 45  |
| Pro Gly Leu His Gly Gln Pro Gly Pro Ala Gly Pro Pro Gly Phe Ser |     |     |
| 50  | 55  | 60  |
| Arg Met Gly Lys Ala Gly Pro Pro Gly Leu Pro Gly Asn Val Gly Pro |     |     |
| 65  | 70  | 75  |
| Pro Gly Gln Pro Gly Leu Arg Gly Glu Pro Gly Ile Arg Gly Asp Gln |     |     |
| 85  | 90  | 95  |
| Gly Leu Arg Gly Pro Pro Gly Pro Pro Gly Leu Pro Gly Pro Ser Gly |     |     |
| 100   | 105 | 110 |
| Ile Thr Ile Pro Gly Lys Pro Gly Ala Gln Gly Val Pro Gly Pro Pro |     |     |
| 115   | 120 | 125 |
| Gly Phe Gln Gly Glu Pro Gly Pro Gln Gly Glu Pro Gly Pro Pro Gly |     |     |
| 130   | 135 | 140 |
| Asp Arg Gly Leu Lys Gly Asp Asn Gly Val Gly Gln Pro Gly Leu Pro |     |     |
| 145   | 150 | 155 |
| Gly Ala Pro Gly Gln Gly Gly Ala Pro Gly Pro Pro Gly Leu Pro Gly |     |     |
| 165   | 170 | 175 |
| Pro Ala Gly Leu Gly Lys Pro Gly Leu Asp Gly Leu Pro Gly Ala Pro |     |     |
| 180   | 185 | 190 |
| Gly Asp Lys Gly Glu Ser Gly Pro Pro Gly Val Pro Gly Pro Arg Gly |     |     |
| 195   | 200 | 205 |
| Glu Pro Gly Ala Val Gly Pro Lys Gly Pro Pro Gly Val Asp Gly Val |     |     |
| 210   | 215 | 220 |
| Gly Val Pro Gly Ala Ala Gly Leu Pro Gly Pro Gln Gly Pro Ser Gly |     |     |
| 225   | 230 | 235 |
| Ala Lys Gly Glu Pro Gly Thr Arg Gly Pro Pro Gly Leu Ile Gly Pro |     |     |
| 245   | 250 | 255 |
| Thr Gly Tyr Gly Met Pro Gly Leu Pro Gly Pro Lys Gly Asp Arg Gly |     |     |
| 260   | 265 | 270 |
| Pro Ala Gly Val Pro Gly Leu Leu Gly Asp Arg Gly Glu Pro Gly Glu |     |     |
| 275   | 280 | 285 |
| Asp Gly Glu Pro Gly Glu Gln Gly Pro Gln Gly Leu Gly Gly Pro Pro |     |     |
| 290   | 295 | 300 |
| Gly Leu Pro Gly Ser Ala Gly Leu Pro Gly Arg Arg Gly Pro Pro Gly |     |     |

305                      310                      315                      320  
 Pro Lys Gly Glu Ala Gly Pro Gly Gly Pro Pro Gly Val Pro Gly Ile  
                                  325                      330                      335  
 Arg Gly Asp Gln Gly Pro Ser Gly Leu Ala Gly Lys Pro Gly Val Pro  
                                  340                      345                      350  
 Gly Glu Arg Gly Leu Pro Gly Ala His Gly Pro Pro Gly Pro Thr Gly  
                                  355                      360                      365  
 Pro Lys Gly Glu Pro Gly Phe Thr Gly Arg Pro Gly Gly Pro Gly Val  
                                  370                      375                      380  
 Ala Gly Ala Leu Gly Gln Lys Gly Asp Leu Gly Leu Pro Gly Gln Pro  
 385                      390                      395                      400  
 Gly Leu Arg Gly Pro Ser Gly Ile Pro Gly Leu Gln Gly Pro Ala Gly  
                                  405                      410                      415  
 Pro Ile Gly Pro Gln Gly Leu Pro Gly Leu Lys Gly Glu Pro Gly Leu  
                                  420                      425                      430  
 Pro Gly Pro Pro Gly Glu Gly Arg Ala Gly Glu Pro Gly Thr Ala Gly  
                                  435                      440                      445  
 Pro Arg Gly Pro Pro Gly Val Pro Gly Ser Pro Gly Ile Thr Gly Pro  
                                  450                      455                      460  
 Pro Gly Leu Pro Gly Pro Pro Gly Ala Pro Gly Ala Phe Asp Glu Thr  
 465                      470                      475                      480  
 Gly Ile Ala Gly Leu His Leu Pro Asn Gly Gly Val Glu Gly Ala Val  
                                  485                      490                      495  
 Leu Gly Lys Gly Gly Lys Pro Gln Phe Gly Leu Gly Glu Leu Ser Ala  
                                  500                      505                      510  
 His Ala Thr Pro Ala Phe Thr Ala Val Leu Thr Ser Pro Leu Pro Ala  
                                  515                      520                      525  
 Ser Gly Met Pro Val Lys Phe Asp Arg Thr Leu Tyr Asn Gly His Ser  
                                  530                      535                      540  
 Gly Tyr Asn Pro Ala Thr Gly Ile Phe Thr Cys Pro Val Gly Gly Val  
 545                      550                      555                      560  
 Tyr Tyr Phe Ala Tyr His Val His Val Lys Gly Thr Asn Val Trp Val  
                                  565                      570                      575  
 Ala Leu Tyr Lys Asn Asn Val Pro Ala Thr Tyr Thr Tyr Asp Glu Tyr  
                                  580                      585                      590  
 Lys Lys Gly Tyr Leu Asp Gln Ala Ser Gly Gly Ala Val Leu Gln Leu  
                                  595                      600                      605  
 Arg Pro Asn Asp Gln Val Trp Val Gln Met Pro Ser Asp Gln Ala Asn  
                                  610                      615                      620  
 Gly Leu Tyr Ser Thr Glu Tyr Ile His Ser Ser Phe Ser Gly Phe Leu  
 625                      630                      635                      640  
 Leu Cys Pro Thr  
                                  644

&lt;210&gt; 3429

&lt;211&gt; 288

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3429

Glu Gly Leu Thr Gly Pro Cys Glu Arg Val Pro Phe Leu Leu Gly Arg  
   1                                  5                                  10                                  15  
 Gly Pro Pro His Gly Ala Thr Arg Ala Gly His Arg Arg Ala Val Arg  
                                   20                                  25                                  30  
 Trp Ala Gly Pro Glu Ser Leu Pro Pro Leu Pro Arg Ser Leu Ile Met  
                                   35                                  40                                  45  
 Asp Ser Pro Arg Ala Gly Thr His Gln Gly Pro Leu Asp Ala Glu Thr  
                                   50                                  55                                  60  
 Glu Val Gly Ala Asp Arg Cys Thr Ser Thr Ala Tyr Gln Glu Gln Arg  
                                   65                                  70                                  75                                  80  
 Pro Gln Val Glu Gln Val Gly Lys Gln Ala Pro Leu Ser Pro Gly Leu



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<210> 3430
<211> 403
<212> PRT
<213> Homo sapiens
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5119

|   |     |     |     |     |  |     |
|---|-----|-----|-----|-----|--|-----|
| 225   |     | 230 |     | 235 |  | 240 |
| Arg Trp Cys Arg Asp Tyr Arg Val Pro Phe Lys Ile Asn Ser Val Ile |     |     |     |     |  |     |
|   | 245 |     | 250 |     |  | 255 |
| Asn Pro Phe Asn Val Glu Glu Asp Met Thr Glu Gln Ile Lys Ala Leu |     |     |     |     |  |     |
|   | 260 |     | 265 |     |  | 270 |
| Asn Pro Val Arg Trp Lys Val Phe Gln Cys Leu Leu Ile Glu Gly Glu |     |     |     |     |  |     |
|   | 275 |     | 280 |     |  | 285 |
| Asn Cys Gly Glu Asp Ala Leu Arg Glu Ala Glu Arg Phe Val Ile Gly |     |     |     |     |  |     |
|   | 290 |     | 295 |     |  | 300 |
| Asp Glu Glu Phe Glu Arg Phe Leu Glu Arg His Lys Glu Val Ser Cys |     |     |     |     |  |     |
| 305   |     | 310 |     | 315 |  | 320 |
| Leu Val Pro Glu Ser Asn Gln Lys Met Lys Asp Ser Tyr Leu Ile Leu |     |     |     |     |  |     |
|   | 325 |     | 330 |     |  | 335 |
| Asp Glu Tyr Met Arg Phe Leu Asn Cys Arg Lys Gly Arg Lys Asp Pro |     |     |     |     |  |     |
|   | 340 |     | 345 |     |  | 350 |
| Ser Lys Ser Ile Leu Asp Val Gly Val Glu Glu Ala Ile Lys Phe Ser |     |     |     |     |  |     |
|   | 355 |     | 360 |     |  | 365 |
| Gly Phe Asp Glu Lys Met Phe Leu Lys Arg Gly Gly Lys Tyr Ile Trp |     |     |     |     |  |     |
|   | 370 |     | 375 |     |  | 380 |
| Ser Lys Ala Asp Leu Lys Leu Asp Trp                             |     |     |     |     |  |     |
| 385   |     | 390 |     | 393 |  |     |

<210> 3431  
 <211> 1109  
 <212> PRT  
 <213> Homo sapiens

<400> 3431

|   |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|---|-----|---|-----|----|--|--|--|--|--|--|--|--|--|--|-----|
| Ala Cys Gly Phe Leu Pro Gly Arg Cys His Phe Ser Thr Phe Lys Gln |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
| 1   |     | 5 |     | 10 |  |  |  |  |  |  |  |  |  |  | 15  |
| Cys Gln Glu Trp Leu Ser Arg Leu Ser Arg Ala Thr Ala Arg Pro Ala |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 20  |   | 25  |    |  |  |  |  |  |  |  |  |  |  | 30  |
| Lys Pro Glu Asp Leu Phe Ala Phe Ala Tyr His Ala Trp Cys Leu Gly |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 35  |   | 40  |    |  |  |  |  |  |  |  |  |  |  | 45  |
| Leu Thr Glu Glu Asp Gln His Thr His Leu Cys Gln Pro Gly Glu His |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 50  |   | 55  |    |  |  |  |  |  |  |  |  |  |  | 60  |
| Ile Arg Cys Arg Gln Glu Ala Glu Leu Ala Arg Met Gly Phe Asp Leu |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 65  |   | 70  |    |  |  |  |  |  |  |  |  |  |  | 80  |
| Gln Asn Val Trp Arg Val Ser His Ile Asn Ser Asn Tyr Lys Leu Cys |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 85  |   | 90  |    |  |  |  |  |  |  |  |  |  |  | 95  |
| Pro Ser Tyr Pro Gln Lys Leu Leu Val Pro Val Trp Ile Thr Asp Lys |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 100 |   | 105 |    |  |  |  |  |  |  |  |  |  |  | 110 |
| Glu Leu Glu Asn Val Ala Ser Phe Arg Ser Trp Lys Arg Ile Pro Val |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 115 |   | 120 |    |  |  |  |  |  |  |  |  |  |  | 125 |
| Val Val Tyr Arg His Leu Arg Asn Gly Ala Ala Ile Ala Arg Cys Ser |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 130 |   | 135 |    |  |  |  |  |  |  |  |  |  |  | 140 |
| Gln Pro Glu Ile Ser Trp Trp Gly Trp Arg Asn Ala Asp Asp Glu Tyr |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 145 |   | 150 |    |  |  |  |  |  |  |  |  |  |  | 160 |
| Leu Val Thr Ser Ile Ala Lys Ala Cys Ala Leu Asp Pro Gly Thr Arg |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 165 |   | 170 |    |  |  |  |  |  |  |  |  |  |  | 175 |
| Ala Thr Gly Gly Ser Leu Ser Thr Gly Asn Asn Asp Thr Ser Glu Ala |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 180 |   | 185 |    |  |  |  |  |  |  |  |  |  |  | 190 |
| Cys Asp Ala Asp Phe Asp Ser Ser Leu Thr Ala Cys Ser Gly Val Glu |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 195 |   | 200 |    |  |  |  |  |  |  |  |  |  |  | 205 |
| Ser Thr Ala Ala Pro Gln Lys Leu Leu Ile Leu Asp Ala Arg Ser Tyr |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 210 |   | 215 |    |  |  |  |  |  |  |  |  |  |  | 220 |
| Thr Ala Ala Val Ala Asn Arg Ala Lys Gly Gly Gly Cys Glu Cys Glu |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 225 |   | 230 |    |  |  |  |  |  |  |  |  |  |  | 240 |
| Glu Tyr Tyr Pro Asn Cys Glu Val Val Phe Met Gly Met Ala Asn Ile |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |
|   | 245 |   | 250 |    |  |  |  |  |  |  |  |  |  |  | 255 |
| His Ala Ile Arg Asn Ser Phe Gln Tyr Leu Arg Ala Val Cys Ser Gln |     |   |     |    |  |  |  |  |  |  |  |  |  |  |     |

5121

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      770              775              780
Leu Leu Glu Asn Pro Arg Phe Gly Lys Met Pro Leu Glu Leu Val Arg
785              790              795              800
Lys Pro Ile Ser Gln Ser Gln Ile Ser Glu Phe Ser Phe Leu Gly Ser
      805              810              815
Asn Trp Asp Ser Phe Gln Gly Met Val Thr Ser Phe Pro Ser Gly Glu
      820              825              830
Ala Thr Pro Arg Arg Leu Leu Ser Tyr Gly Cys Cys Ser Lys Arg Pro
      835              840              845
Asn Ser Lys Gln Met Arg Ala Thr Gly Pro Cys Phe Gly Gly Gln Trp
      850              855              860
Ala Gln Arg Glu Gly Val Lys Ser Pro Val Cys Ser Ser His Ser Asn
865              870              875              880
Gly His Cys Thr Gly Pro Gly Gly Lys Asn Gln Met Trp Leu Ser Ser
      885              890              895
His Pro Lys Gln Val Ser Ser Thr Lys Pro Val Pro Leu Asn Cys Pro
      900              905              910
Ser Pro Val Pro Pro Leu Tyr Leu Asp Asp Asp Gly Leu Pro Phe Pro
      915              920              925
Thr Asp Val Ile Gln His Arg Leu Arg Gln Ile Glu Ala Gly Tyr Lys
      930              935              940
Gln Glu Val Glu Gln Leu Arg Arg Gln Val Arg Glu Leu Gln Met Arg
945              950              955              960
Leu Asp Ile Arg His Cys Cys Ala Pro Pro Ala Glu Pro Pro Met Asp
      965              970              975
Tyr Glu Asp Asp Phe Thr Cys Leu Lys Glu Ser Asp Gly Ser Asp Thr
      980              985              990
Glu Asp Phe Gly Ser Asp His Ser Glu Asp Cys Leu Ser Glu Ala Ser
      995              1000              1005
Trp Glu Pro Val Asp Lys Lys Glu Thr Glu Val Thr Arg Trp Val Pro
      1010              1015              1020
Asp His Met Ala Ser His Cys Tyr Asn Cys Asp Cys Glu Phe Trp Leu
1025              1030              1035              1040
Ala Lys Arg Arg His His Cys Arg Asn Cys Gly Asn Val Phe Cys Ala
      1045              1050              1055
Gly Cys Cys His Leu Lys Leu Pro Ile Pro Asp Gln Gln Leu Tyr Asp
      1060              1065              1070
Pro Val Leu Val Cys Asn Ser Cys Tyr Glu His Ile Gln Val Ser Arg
      1075              1080              1085
Ala Arg Glu Leu Met Ser Gln Gln Leu Lys Lys Pro Ile Ala Thr Ala
      1090              1095              1100
Ser Ser
11051106

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&lt;210&gt; 3432

&lt;211&gt; 613

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3432

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Met Thr Phe Phe Ser Ser Val Ala Asp Phe Ile Gly Leu Asp Pro Arg
1              5              10              15
Ile Ala Ala Trp Leu Ile Asp Pro Ser Asp Ala Thr Pro Ser Phe Glu
      20              25              30
Asp Leu Val Glu Lys Tyr Cys Glu Lys Ser Ile Thr Val Lys Val Asn
      35              40              45
Ser Thr Tyr Gly Asn Ser Ser Arg Asn Ile Val Asn Gln Asn Val Arg
      50              55              60
Glu Asn Leu Lys Thr Leu Tyr Arg Leu Thr Met Asp Leu Cys Ser Lys
      65              70              75              80
Leu Lys Asp Tyr Gly Leu Trp Gln Leu Phe Arg Thr Leu Glu Leu Pro

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|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ile | Pro | Ile | Leu | Ala | Val | Met | Glu | Ser | His | Ala | Ile | Gln | Val | Asn |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Lys | Glu | Glu | Met | Glu | Lys | Thr | Ser | Ala | Leu | Leu | Gly | Ala | Arg | Leu | Lys |
|     |     |     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |
| Glu | Leu | Glu | Gln | Glu | Ala | His | Phe | Val | Ala | Gly | Glu | Arg | Phe | Leu | Ile |
|     |     |     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |
| Thr | Ser | Asn | Asn | Gln | Leu | Arg | Glu | Ile | Leu | Phe | Gly | Lys | Leu | Lys | Leu |
|     |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| His | Leu | Leu | Ser | Gln | Arg | Asn | Ser | Leu | Pro | Arg | Thr | Gly | Leu | Gln | Lys |
|     |     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Pro | Ser | Thr | Val | Ser | Glu | Ala | Leu | Asn | Ala | Leu | Arg | Asp | Leu | His |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |
| Pro | Leu | Pro | Lys | Ile | Ile | Leu | Glu | Tyr | Arg | Gln | Val | His | Lys | Ile | Lys |
|     |     |     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |
| Ser | Thr | Phe | Val | Asp | Gly | Leu | Leu | Ala | Cys | Met | Lys | Lys | Gly | Ser | Ile |
|     |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Ser | Thr | Trp | Asn | Gln | Thr | Gly | Thr | Val | Thr | Gly | Arg | Leu | Ser | Ala |
|     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Lys | His | Pro | Asn | Ile | Gln | Gly | Ile | Ser | Lys | His | Pro | Ile | Gln | Ile | Thr |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Pro | Lys | Asn | Phe | Lys | Gly | Lys | Glu | Asp | Lys | Ile | Leu | Thr | Ile | Ser |
|     |     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |
| Pro | Arg | Ala | Met | Phe | Val | Ser | Ser | Lys | Gly | His | Thr | Phe | Leu | Ala | Ala |
|     |     |     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |
| Asp | Phe | Ser | Gln | Ile | Glu | Leu | Arg | Ile | Leu | Thr | His | Leu | Ser | Gly | Asp |
|     |     |     | 290 |     |     | 295 |     |     |     | 300 |     |     |     |     |     |
| Pro | Glu | Leu | Leu | Lys | Leu | Phe | Gln | Glu | Ser | Glu | Arg | Asp | Asp | Val | Phe |
|     |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Ser | Thr | Leu | Thr | Ser | Gln | Trp | Lys | Asp | Val | Pro | Val | Glu | Gln | Val | Thr |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| His | Ala | Asp | Arg | Glu | Gln | Thr | Lys | Lys | Val | Val | Tyr | Ala | Val | Val | Tyr |
|     |     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |
| Gly | Ala | Gly | Lys | Glu | Arg | Leu | Ala | Ala | Cys | Leu | Gly | Val | Pro | Ile | Gln |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     |     | 365 |     |     |
| Glu | Ala | Ala | Gln | Phe | Leu | Glu | Ser | Phe | Leu | Gln | Lys | Tyr | Lys | Lys | Ile |
|     |     |     | 370 |     |     | 375 |     |     |     | 380 |     |     |     |     |     |
| Lys | Asp | Phe | Ala | Arg | Ala | Ala | Ile | Ala | Gln | Cys | His | Gln | Thr | Gly | Cys |
|     |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Val | Val | Ser | Ile | Met | Gly | Arg | Arg | Arg | Pro | Leu | Pro | Arg | Ile | His | Ala |
|     |     |     |     |     | 405 |     |     |     | 410 |     |     |     |     | 415 |     |
| His | Asp | Gln | Gln | Leu | Arg | Ala | Gln | Ala | Glu | Arg | Gln | Ala | Val | Asn | Phe |
|     |     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |
| Val | Val | Gln | Gly | Ser | Ala | Ala | Asp | Leu | Cys | Lys | Leu | Ala | Met | Ile | His |
|     |     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |
| Val | Phe | Thr | Ala | Val | Ala | Ala | Ser | His | Thr | Leu | Thr | Ala | Arg | Leu | Val |
|     |     |     | 450 |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ala | Gln | Ile | His | Asp | Glu | Leu | Leu | Phe | Glu | Val | Glu | Asp | Pro | Gln | Ile |
|     |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     | 480 |     |
| Pro | Glu | Cys | Ala | Ala | Leu | Val | Arg | Arg | Thr | Met | Glu | Ser | Leu | Glu | Gln |
|     |     |     |     |     | 485 |     |     |     | 490 |     |     |     |     | 495 |     |
| Val | Pro | Leu | Lys | Val | Ser | Leu | Ser | Ala | Gly | Arg | Ser | Trp | Gly | His | Leu |
|     |     |     | 500 |     |     |     |     |     | 505 |     |     |     | 510 |     |     |
| Val | Pro | Leu | Gln | Glu | Ala | Trp | Ala | Leu | Arg | Gln | Ala | His | Val | Ala | Leu |
|     |     |     | 515 |     |     |     | 520 |     |     |     |     |     | 525 |     |     |
| Ser | Leu | Pro | Ala | Thr | Ala | Trp | Leu | Pro | Leu | Gly | Pro | Leu | Pro | Ala | Pro |
|     |     |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Ser | Pro | His | Pro | Cys | Ile | Phe | Arg | Leu | His | Phe | Val | Cys | Ser | Pro | Arg |
|     |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     | 560 |     |
| Gln | Gln | Trp | Glu | Glu | Arg | Thr | Gly | Phe | Gln | Gln | Ser | Ile | Val | Trp | Pro |
|     |     |     |     |     | 565 |     |     |     | 570 |     |     |     |     | 575 |     |
| Ser | Pro | Arg | Ser | Pro | Ala | Leu | Tyr | Ala | Pro | Gly | Arg | Ile | Asn | Pro | Leu |
|     |     |     | 580 |     |     |     |     |     | 585 |     |     |     | 590 |     |     |
| Gly | Leu | Gly | Trp | Pro | Ala | Ile | Pro | Trp | Ser | Lys | Cys | Leu | Cys | Lys | Ala |

595  
Leu Lys Lys Lys  
610 612

600

605

<210> 3433  
<211> 339  
<212> PRT  
<213> Homo sapiens

<400> 3433  
Ile Pro Pro Lys Glu Arg Ala Pro Gly Ile Arg Ala Ser Cys Leu Ala  
1 5 10 15  
Ile Thr Ala Gly Ala Arg Pro Thr Ser Tyr Gly Arg Val Gly Cys Glu  
20 25 30  
Gly Asp Val Arg Leu Ser Pro Val Ser Pro Leu Leu Ala Pro Pro Asp  
35 40 45  
Pro Arg Leu Ala Ser Arg Trp Glu Gly Arg Ser Arg Met Lys Gly Lys  
50 55 60  
Lys Gly Ile Val Ala Ala Ser Gly Ser Glu Thr Glu Asp Glu Asp Ser  
65 70 75 80  
Met Asp Ile Pro Leu Asp Leu Ser Ser Ser Ala Gly Ser Gly Lys Arg  
85 90 95  
Arg Arg Arg Gly Asn Leu Pro Lys Glu Ser Val Gln Ile Leu Arg Asp  
100 105 110  
Trp Leu Tyr Glu His Arg Tyr Asn Ala Tyr Pro Ser Glu Gln Glu Lys  
115 120 125  
Ala Leu Leu Ser Gln Gln Thr His Leu Ser Thr Leu Gln Val Cys Asn  
130 135 140  
Trp Phe Ile Asn Ala Arg Arg Arg Leu Leu Pro Asp Met Leu Arg Lys  
145 150 155 160  
Asp Gly Lys Asp Pro Asn Gln Phe Thr Ile Ser Arg Arg Gly Ala Lys  
165 170 175  
Ile Ser Glu Thr Ser Ser Val Glu Ser Val Met Gly Ile Lys Asn Phe  
180 185 190  
Met Pro Ala Leu Glu Glu Thr Pro Phe His Ser Phe Thr Ala Gly Pro  
195 200 205  
Asn Pro Thr Leu Gly Arg Pro Leu Ser Ala Lys Pro Ser Gln Ser Pro  
210 215 220  
Gly Ser Val Leu Ala Arg Pro Ser Val Ile Cys His Thr Thr Val Thr  
225 230 235 240  
Ala Ile Glu Arg Leu Ser Leu Ser Leu Ser Cys Gln Ser Val Gly Cys  
245 250 255  
Gly Gln Asn Thr Asp Ile Gln Gln Ile Ala Thr Arg Asn Leu Arg Asp  
260 265 270  
Ser Ser Leu Met Tyr Pro Glu Asp Thr Cys Lys Ser Gly Pro Ser Thr  
275 280 285  
Asn Thr Gln Ser Gly Leu Phe Asn Thr Pro Pro Pro Thr Pro Pro Asp  
290 295 300  
Leu Asn Gln Asp Phe Ser Gly Phe Gln Leu Leu Val Asp Val Ala Leu  
305 310 315 320  
Lys Arg Ala Ala Glu Met Glu Leu Gln Ala Lys Leu Thr Ala  
325 330 334

<210> 3434  
<211> 408  
<212> PRT  
<213> Homo sapiens



<400> 3434  
 Asn Gly Pro Val Pro Pro Gly Gly Ser Lys Thr Lys Trp Ala Gly Gly  
 1 5 10 15  
 Ser Ala Ala Glu Gly Ser Pro Arg Leu Ser Pro Ser Pro Gly Ala Ala  
 20 25 30  
 Gln Val Pro Ala Leu Leu Arg Gly Glu Pro Arg Gly Gly Ala Ala Ala  
 35 40 45  
 Gly Ser Phe Trp Lys Pro Leu His Gln His Ser Cys Gly Leu Arg Pro  
 50 55 60  
 Pro Pro Pro Pro Asp Arg Leu Ser Arg Leu Pro Gly Lys Thr Leu Ser  
 65 70 75 80  
 Ala Cys Asp Arg Glu Asn Gly Ala Arg Arg Pro Leu Leu Leu Gly Ser  
 85 90 95  
 Thr Ser Phe Ile Pro Ile Gly Arg Arg Thr Tyr Ala Ser Ala Ala Glu  
 100 105 110  
 Pro Val Gly Ser Lys Ala Val Leu Val Thr Gly Cys Asp Ser Gly Phe  
 115 120 125  
 Gly Phe Ser Leu Ala Lys His Leu His Ser Lys Gly Phe Leu Val Phe  
 130 135 140  
 Ala Gly Cys Leu Met Lys Asp Lys Gly His Asp Gly Val Lys Glu Leu  
 145 150 155 160  
 Asp Ser Leu Asn Ser Asp Arg Leu Arg Thr Val Gln Leu Asn Val Cys  
 165 170 175  
 Ser Ser Glu Glu Val Glu Lys Val Val Gly Asp Cys Pro Leu Glu Pro  
 180 185 190  
 Glu Gly Pro Glu Lys Gly Met Trp Gly Leu Val Asn Asn Ala Gly Ile  
 195 200 205  
 Ser Thr Phe Gly Glu Val Glu Phe Thr Ser Leu Glu Thr Tyr Lys Gln  
 210 215 220  
 Val Ala Glu Val Asn Leu Trp Gly Thr Val Arg Met Thr Lys Ser Phe  
 225 230 235 240  
 Leu Pro Leu Ile Arg Arg Ala Lys Gly Arg Val Val Asn Ile Ser Ser  
 245 250 255  
 Met Leu Gly Arg Met Ala Asn Pro Ala Arg Ser Pro Tyr Cys Ile Thr  
 260 265 270  
 Lys Phe Gly Val Glu Ala Phe Ser Asp Cys Leu Arg Tyr Glu Met Tyr  
 275 280 285  
 Pro Leu Gly Val Lys Val Ser Val Val Glu Pro Gly Asn Phe Ile Ala  
 290 295 300  
 Ala Thr Ser Leu Tyr Ser Pro Glu Ser Ile Gln Ala Ile Ala Lys Lys  
 305 310 315 320  
 Met Trp Glu Glu Leu Pro Glu Val Val Arg Lys Asp Tyr Gly Lys Lys  
 325 330 335  
 Tyr Phe Asp Glu Lys Ile Ala Lys Met Glu Thr Tyr Cys Ser Ser Gly  
 340 345 350  
 Ser Thr Asp Thr Ser Pro Val Ile Asp Ala Val Thr His Ala Leu Thr  
 355 360 365  
 Ala Thr Thr Pro Tyr Thr Arg Tyr His Pro Met Asp Tyr Tyr Trp Trp  
 370 375 380  
 Leu Arg Met Gln Ile Met Thr His Leu Pro Gly Ala Ile Ser Asp Met  
 385 390 395 400  
 Ile Tyr Ile Arg  
 404

&lt;210&gt; 3435

&lt;211&gt; 918

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3435

Glu Asn Gln Gln Gln Met Leu Val Ala Lys Glu Gln Arg Leu His Phe

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Leu Lys Gln Gln Glu Arg Arg Gln Gln Gln Ser Ile Ser Glu Asn Glu |     |     |     |
| 20  | 25  | 30  |     |
| Lys Leu Gln Lys Leu Lys Glu Arg Val Glu Ala Gln Glu Asn Lys Leu |     |     |     |
| 35  | 40  | 45  |     |
| Lys Lys Ile Arg Ala Met Arg Gly Gln Val Asp Tyr Ser Lys Ile Met |     |     |     |
| 50  | 55  | 60  |     |
| Asn Gly Asn Leu Ser Ala Glu Ile Glu Arg Phe Ser Ala Met Phe Gln |     |     |     |
| 65  | 70  | 75  | 80  |
| Glu Lys Lys Gln Glu Val Gln Thr Ala Ile Leu Arg Val Asp Gln Leu |     |     |     |
| 85  | 90  | 95  |     |
| Ser Gln Gln Leu Glu Asp Leu Lys Lys Gly Lys Leu Asn Gly Phe Gln |     |     |     |
| 100   | 105 | 110 |     |
| Ser Tyr Asn Gly Lys Leu Thr Gly Pro Ala Ala Val Glu Leu Lys Arg |     |     |     |
| 115   | 120 | 125 |     |
| Leu Tyr Gln Glu Leu Gln Ile Arg Asn Gln Leu Asn Gln Glu Gln Asn |     |     |     |
| 130   | 135 | 140 |     |
| Ser Lys Leu Gln Gln Gln Lys Glu Leu Leu Asn Lys Arg Asn Met Glu |     |     |     |
| 145   | 150 | 155 | 160 |
| Val Ala Met Met Asp Lys Arg Ile Ser Glu Leu Arg Glu Arg Leu Tyr |     |     |     |
| 165   | 170 | 175 |     |
| Gly Lys Lys Ile Gln Ala Cys Glu Lys Val Phe Leu Asn Arg Val Asn |     |     |     |
| 180   | 185 | 190 |     |
| Gly Thr Ser Ser Pro Gln Ser Pro Leu Ser Thr Ser Gly Arg Val Ala |     |     |     |
| 195   | 200 | 205 |     |
| Ala Val Gly Pro Tyr Ile Gln Val Pro Ser Ala Gly Ser Phe Pro Val |     |     |     |
| 210   | 215 | 220 |     |
| Leu Gly Asp Pro Ile Lys Pro Gln Ser Leu Ser Ile Ala Ser Asn Ala |     |     |     |
| 225   | 230 | 235 | 240 |
| Ala His Gly Arg Ser Lys Ser Ala Asn Asp Gly Asn Trp Pro Thr Leu |     |     |     |
| 245   | 250 | 255 |     |
| Lys Gln Asn Ser Ser Ser Ser Val Lys Pro Val Gln Val Ala Gly Ala |     |     |     |
| 260   | 265 | 270 |     |
| Asp Trp Lys Asp Pro Ser Val Glu Gly Ser Val Lys Gln Gly Thr Val |     |     |     |
| 275   | 280 | 285 |     |
| Ser Ser Gln Pro Val Pro Phe Ser Ala Leu Gly Pro Thr Glu Lys Pro |     |     |     |
| 290   | 295 | 300 |     |
| Gly Ile Glu Ile Gly Lys Val Pro Pro Pro Ile Pro Gly Val Gly Lys |     |     |     |
| 305   | 310 | 315 | 320 |
| Gln Leu Pro Pro Ser Tyr Gly Thr Tyr Pro Ser Pro Thr Pro Leu Gly |     |     |     |
| 325   | 330 | 335 |     |
| Pro Gly Ser Thr Ser Ser Leu Glu Arg Arg Lys Glu Gly Ser Leu Pro |     |     |     |
| 340   | 345 | 350 |     |
| Arg Pro Ser Ala Gly Leu Pro Ser Arg Gln Arg Pro Thr Leu Leu Pro |     |     |     |
| 355   | 360 | 365 |     |
| Ala Thr Gly Ser Thr Pro Gln Pro Gly Ser Ser Gln Gln Ile Gln Gln |     |     |     |
| 370   | 375 | 380 |     |
| Arg Ile Ser Val Pro Pro Ser Pro Thr Tyr Pro Pro Ala Gly Pro Pro |     |     |     |
| 385   | 390 | 395 | 400 |
| Ala Phe Pro Ala Gly Asp Ser Lys Pro Glu Leu Pro Leu Thr Val Ala |     |     |     |
| 405   | 410 | 415 |     |
| Ile Arg Pro Phe Leu Ala Asp Lys Gly Ser Arg Pro Gln Ser Pro Arg |     |     |     |
| 420   | 425 | 430 |     |
| Lys Gly Pro Gln Thr Val Asn Ser Ser Ser Ile Tyr Ser Met Tyr Leu |     |     |     |
| 435   | 440 | 445 |     |
| Gln Gln Ala Thr Pro Pro Lys Asn Tyr Gln Pro Ala Ala His Ser Ala |     |     |     |
| 450   | 455 | 460 |     |
| Leu Asn Lys Ser Val Lys Ala Val Tyr Gly Lys Pro Val Leu Pro Ser |     |     |     |
| 465   | 470 | 475 | 480 |
| Gly Ser Thr Ser Pro Ser Pro Leu Pro Phe Leu His Gly Ser Leu Ser |     |     |     |
| 485   | 490 | 495 |     |
| Thr Gly Thr Pro Gln Pro Gln Pro Pro Ser Glu Ser Thr Glu Lys Glu |     |     |     |
| 500   | 505 | 510 |     |
| Pro Glu Gln Asp Gly Pro Ala Ala Pro Ala Asp Gly Ser Thr Val Glu |     |     |     |